FOI#14742

Information:

First Name: Kristine
Last Name: Nemeth
Company: ARCADIS
Mailing Address 1: 655 Third Avenue
Mailing Address 2:
City: New York
State: NY
Zip Code: 10017
Email Address: kristine.nemeth@arcadis-us.com
Phone: 860-503-1513
Required copies of the records: Yes

List of specific record(s):
Request for electronic copies of the documents submitted and the evaluation sheets for the following call-in contracts: PATH - Planning, Project Management Related Call-In Services 2014 Contracts PPAT14002 PPAT14003 PPAT 14004 PPAT 14001 AND Project Management Call-In 2011-2014 PCOO11006, PCOO1107, PCOO11008, PCOO11009, PCOO11010, PCOO11011, PCOO11012.

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
PUBLIC RECORD ACCESS FORM

PRA 14742

Action by (print / type name):

William Shalewitz , Freedom of Information Administrator

Signature: Date:

08/12/2016

On behalf of the Secretary of the Port Authority, as Records Access Officer and Custodian of Government Records of the Port Authority.

☑ The requested records are being made available.

☐ Any responsive records that may exist are currently in storage or archived, and a diligent search is being conducted. The Port Authority will respond by:

☐ A diligent search has been conducted, and no records responsive to your request have been located.

☐ The requested records that have been located are not being made available, as they are exempt from disclosure for the following specific reasons:

☐ Some requested records that have been located are being made available. The remainder are exempt from disclosure for the following specific reasons:

☐ The request does not reasonably describe or identify specific records; therefore, the Port Authority is unable to search for and locate responsive records. Please consider submitting a new request that describes or identifies the specific records requested with particularity and detail.

☑ Other:

Material responsive to your request can be found on the Port Authority's website at http://corpinfo.panynj.gov/documents/14742-C/. Paper copies of the available records are available upon request.
Exemptions applied for personal privacy.

This form is promulgated by the Port Authority pursuant to the Port Authority Public Records Access Policy and is intended to be construed consistent with the New York Freedom of Information Law and the New Jersey Open Public Records Act. It is intended to facilitate requests for Port Authority public records and does not constitute legal advice.

The Port Authority of NY & NJ

Professional Planning, Project Management and Related Services on a Call-In Basis During 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH)

January 14, 2010 | RFP Number 19980

SYSTRA USA HILL

PATH FORWARD PARTNERSHIP

The Port Authority of NY & NJ

Professional Planning, Project Management and Related Services on a Call-In Basis During 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH)

January 14, 2010 | RFP No. 19980

TABLE OF CONTENTS

SECTION

Agreement on Terms of Discussion . . . . . A

Transmittal Letter . . . . . B

Cost C

Firm Qualifications and Experience . . . . . D

Staff's Qualifications and Experience. . . . . E

Technical Approach . . . . . F

Management Approach . . . . . G

Subconsultants. . . . . H

M/WBE Participation I

Affiliates . . . . . J

Contract Exceptions . . . . . K

Conflict of Interest. L

Agreement of Terms

"... our goal to restore downtown service as quickly as possible was achieved on November 23, 2003 by the Hill International team, approximately one month ahead of schedule"

Achille A. Niro, PE
Former Assistant Chief Engineer/Program Management
The Port Authority of NY & NJ

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

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SYSTRA Engineering, Inc.
(Company)

(Signature)

Secretary/Treasurer
(Title)

January 11, 2010
(Date)

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Hill International, Inc.
(Company)

(Signature)

President, Project Management Group Americas
(Title)

January 13, 2010
(Date)

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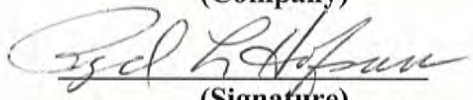
Gannett Fleming, Inc.
(Company)


(Signature)

Raymond L. Hofsass, P.E.

Vice President
(Title)

1/8/2010
(Date)

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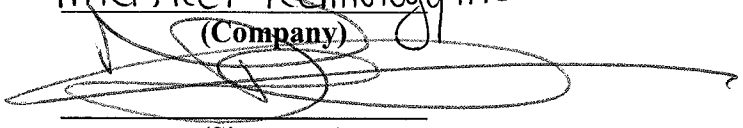
InterFleet Technology Inc.
(Company)



(Signature)

Vice President, Business Development
(Title)

1-11-2010
(Date)

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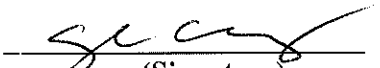
Garg Consulting Services, Inc.
(Company)


(Signature)

President / CEO
(Title)

01/06/2010
(Date)

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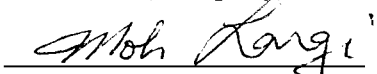
Longi Engineering, P.C.
(Company)


(Signature)

President
(Title)

1/8/2010
(Date)

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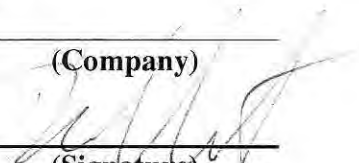
HAKS

(Company)



(Signature)

Paul Cavota

(Title)

1/6/10

(Date)

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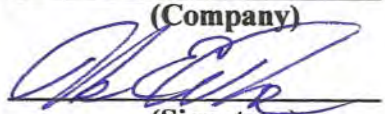
Keville Enterprises Inc.
(Company)


(Signature)

Senior Vice President
(Title)

January 11, 2010
(Date)

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Envision Consultants, Ltd.

(Company)

Victoria Malusznych

(Signature)

President

(Title)

1/08/2010

(Date)

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Interactive Elements Inc.
(Company)

Shaan Hurley
(Signature)

President
(Title)

1/7/10
(Date)

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Transmittal Letter

PATH FORWARD PARTNERSHIP

PATH Forward Partnership
SYSTRA, Hill, Gannett Fleming (SHG)
1037 Raymond Boulevard
Suite 1420
Newark, NJ 07102-5427
Tel: 973-368-0762
Fax: 973-799-0650

January 14, 2009

Mr. Tim Volonakis
Manager
The Port Authority of NY & NJ
One Madison Avenue, 7th Floor
New York, NY 10010

Subject: Request For Proposals For The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010-2014 for The Port Authority Trans-Hudson Corporation (PATH) RFP No. 19980

Dear Mr. Volonakis

We are pleased to submit our proposal to provide Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010-2014 for The Port Authority Trans-Hudson Corporation (PATH) contract.

The PATH heavy rail rapid transit system is a critical link in the New York–New Jersey transportation network and serves as a central component for the area's economic growth. The Port Authority PATH needs a team that it can trust to be its advocate during the design phase and that will ensure operations remain uninterrupted during construction. We are that team and we are pleased to introduce you to our Tri-Venture, the **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG).** Each firm has extensive experience in the program, project, and construction management of transportation programs and we are confident that we have the skills necessary to be a seamless and complementary extension of your staff.

Our team has extensive experience providing project management services on some of the most important transportation facilities' projects in the country, as well as senior staff members with experience in managing rail capital programs with sub-projects valued at more than $50 million. We have each enjoyed an excellent working relationship with the Port Authority over the past several years, including work together on the renewal and reconstruction of the World Trade Center involving signal and track work for the Temporary PATH Terminal train service stations.

We are experts in logistics planning, project and master program scheduling, and related support services for transportation-related projects in and around New York City. We are confident that our experience and knowledge of the Port Authority from past projects and our experience with transit and rail capital programs for similar clients, combined with our extensive staff experience in related construction projects, will enable us to provide you the required manpower and services as

you may require. Furthermore, our team comprises individuals who possess the knowledge and experience to function as an extension of the Port Authority staff for the successful completion of all work assigned. Team members can be mobilized immediately to support the Port Authority in a beneficial and professional manner.

In summary, the **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** Team delivers to the Port Authority:

- A team with an intimate knowledge of Port Authority operations and significant Port Authority and PATH project experience
- Commitment of top-level management with extensive transportation-related experience supported by the key staff carefully selected for the needs of this project
- Major offices in New York City and New Jersey
- Ability to rapidly mobilize our augmentation staff
- A team that wants to continue to work for you

We look forward to continuing to provide services to the Port Authority in the years ahead on this new program. Should you have any questions regarding our submittal, or desire additional information, do not hesitate to reach out to our contact for this proposal, Thomas J. Spearing, III, at 856.810.5868 or via email at tomspearing@hillintl.com.

Best Regards,

SYSTRA Engineering

Joseph M. Sais, PE
Vice President
Director of Construction/
Program Management Practice

Hill International, Inc.

Thomas J. Spearing, III
President
Project Management Group Americas

Gannett Fleming, Inc.

Raymond L. Hofsass, PE
Vice President

TEAMING AGREEMENT

THIS TEAMING AGREEMENT ("Agreement"), dated as of the 12th day of January, 2010, is entered into between Gannett Fleming, Inc., a Delaware corporation (hereinafter called "Gannett Fleming") having an office at 1037 Raymond Boulevard, Suite 1420, Newark, New Jersey 07102, and Hill International, Inc., a Delaware corporation (hereinafter called "Hill") having an office at One Penn Plaza, Suite 3415, New York, New York 10019, and SYSTRA Engineering a New York corporation (hereinafter called "Systra") having an office at 470 7th Avenue, 10th Floor, New York, New York 10018 (together the "Parties" or the "Team").

WHEREAS, the Parties have complementary capabilities and experience in the field of rail transit design and environmental practices, and desire as exclusive team members to develop and design a complete project known as The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010-2014 for The Port Authority Trans-Hudson Corporation (PATH) RFP No. 19980 Contract (hereinafter "the Project") pursuant to the December 15, 2009 RFP issued by The Port Authority of NY & NJ or other related authority (hereinafter "Client").

NOW, THEREFORE, the Parties agree as follows:

1. Relationship.

The Parties agree to pursue jointly the Project on mutually acceptable terms, to work with each other exclusively during the term of the Agreement, except as noted herein, and to be governed by the conditions expressed herein. It is the Parties' intention to form a mutually agreeable and beneficial business arrangement as appropriate. The Parties shall negotiate in

good faith to execute a mutually acceptable Joint Venture Agreement to outline the details of the business arrangement in order to implement the Project. The Parties shall negotiate their final respective percentage interests in the Joint Venture Agreement but shall generally reflect a goal of 33.3% Gannett Fleming, 33.3% Hill, 33.3% Systra after subconsultants.

2. Scope of Work Among the Parties

Systra, Hill, and Gannett Fleming shall form a Joint Venture with the distribution of the scope of services to be determined by the Parties.

3. Proposal and Marketing Activity

During the term of this Agreement, the Team shall use their collective best effort to secure a prime contract for the Project and work together to prepare and furnish market competitive proposals that are technically, commercially and financially acceptable to the Client. Each Party shall cooperate in marketing and proposal efforts during and after submission of any Proposal. Unless agreed otherwise, the JV Lead Firm shall manage proposal preparation. However, no Party shall be obligated to accept any terms and conditions contained in any proposed contract, if such Party deems any of such terms and conditions objectionable. Moreover, nothing contained herein is intended in any manner to limit the Parties in the conduct of their respective businesses or activities, in the making of other engagements or contracts or in the performance of other work not related to the Project.

4. Expenses

Except for compensation that may be paid to the Parties pursuant to any contracts or subcontracts on the Project, each Party shall bear all of its own expenses incurred in connection with the Project. Third party expenses, if any, will be mutually agreed in advance of such expense and shared equally unless agreed otherwise.

5. Negation of the Formation of a Business Organization

This Agreement shall not constitute, create, or in any way be interpreted to create a joint venture, partnership, or formal business organization of any kind between the Parties.

6. Assignment

No Party may assign or transfer its interest herein without the prior written consent of the other Parties.

7. Termination

Except with respect to the provisions of Sections 8 and 9, which shall survive the expiration or earlier termination hereof, this Agreement and all rights and duties hereunder will cease and terminate upon the first to occur of the following:

(a) Cancellation of the Project.

(b) The elimination of the Parties from consideration as a designer for any phase of the Project.

(c) Failure of the Parties to agree upon a mutually acceptable JV Agreement after negotiation in good faith.

(d) The signing of a superceding agreement.

(e) Mutual agreement of the Parties to terminate.

(f) December 31, 2010

8. Disclosure and Protection of Information

(a) Each Party agrees to receive and maintain information considered confidential or business proprietary by another Party ("Information") in confidence, when received in written form and appropriately marked as confidential or proprietary, or in detailed verbal discussions when transmitted in confidence and confirmed in writing as such within seven (7) days after such

confidential transmission, and not to disclose the Information to any other third party for a period of three (3) years from the date of this Agreement.

(b) Each Party agrees that the Information will be used only for said purposes of preparing and submitting a proposal and for any other purpose as approved in writing by the Party disclosing the Information.

(c) The Parties shall use all Information received from any other Party in connection with this Agreement solely for the purposes for which it was provided, treat it in the same way as their own business secrets and not make it available to third parties, unless the Information in question:

- is or becomes (without breach of this Agreement) generally available from public sources or in the public domain;
- is received at any time from any third party without non disclosure obligation to the disclosing party;
- is shown to have been developed independently by the receiving Party without reliance on the disclosing Party's Information or to have been known to the receiving Party prior to its disclosure by the disclosing Party;
- must be disclosed to the Client or other third parties for the purpose of performing this Agreement, if the Client or the other party are or become subject to an equivalent confidentiality obligation;
- is required by competent legal authority to be disclosed (but only to the extent of such requirement).

9. No Party to this Agreement shall be liable to any other Party to this Agreement, whether based upon contract, warranty, tort, negligence, strict liability, delay, indemnity, error or

omission, or otherwise, for any indirect, special, incidental, consequential, punitive, or exemplary damages of any kind or nature whatsoever.

10. This Agreement contains the entire understanding of the Parties with respect to the subject matter hereof, and may not be modified, altered or amended, nor may any provision hereof or right hereunder be waived, except by an instrument in writing signed by the Party against which such modification, alteration, amendment or waiver is sought to be enforced. All notices, demands and other communications hereunder shall be in writing and delivered to the Parties hereto at their respective principal executive offices. Unless extended or previously terminated, and except for the continuing obligations of the Parties pursuant to Sections 8 and 9, this Agreement and the obligations of the Parties hereunder will terminate on the applicable date specified in Section 7(f).

11. Governing Law:

The venue and governing law for any dispute under or arising from this Agreement shall be the law of the State of New York.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

SYSTRA Engineering

Hill International, Inc.

Gannett Fleming, Inc.

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   SYSTRA Engineering, Inc.

2. Business Address (to receive mail for this RFP):

   470 Seventh Ave., 10th Floor

   New York, NY 10018

3. Business Telephone Number: 212-494-9111

4. Business Fax Number: 212-494-9112

5. Firm website: www.systraconsulting.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 9 / 29 / 2000
   Previously, Ford, Bacon, Davis Construction Corp. Est. 1931

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   SYSTRA Consulting, Inc. 150 Clove Rd., 7th Floor, Little Falls, NJ 07424 22-2593414

9. Officer or Principal of Firm and Title:

   Garry Hartwig, Secretary/Treasurer

10. Name, telephone number, and email address of contact for questions:
    Garry Hartwig, Secretary/Treasurer, 973-873-9700, ghartwig@systrausa.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

SYSTRA Engineering Affiliates

- SYSTRA Consulting
- SYSTRA USA

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   _____

2. Business Address (to receive mail for this RFP):

   _____

   _____

3. Business Telephone Number: _____
4. Business Fax Number: _____
5. Firm website: _____
6. Federal Employer Identification Number (EIN): [redacted]_____
7. Date (MM/DD/YYYY) Firm was Established: _____/_____/_____
8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   _____

   _____

9. Officer or Principal of Firm and Title:

   _____

10. Name, telephone number, and email address of contact for questions:

    _____

    _____

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☐ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

Attachment C - Affiliates

Business Name	EIN	Address
Hill International, Inc.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Abu Dhabi Branch (registered in Abu Dhabi)	N/A	Suite 1601, 16th Floor, Butti Al Otaiba Building, Sheikh Khalifa Street, Abu Dhabi, UAE
Qatar Branch (registered in Qatar)	N/A	Al Jaber Tower, 4th Floor, Unit 4, Museum Road, Old Salata, PO Box 21835 Doha, Qatar
Trinidad Branch (registered in Trinidad)		Abercromby Court, 86 Abercromby Street, Port of Spain, Trinidad W.I.
6204902 Canada Inc.	[redacted]	3660 Hurontario Street 6th Floor, Mississauga, Ontario, L5B3C4, Canada
Asia/Pacific Hill International Holding PTE Ltd.	[redacted]	33 West Coast Rise, Singapore 127476 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Philippines Branch	N/A	
Beijing Hill International Construction Consulting Company Limited		Unit 17, 17F PingAn International Financial Center Tower B, No. 1-3, XinYuan South Road, Chaoyang District, Beijing 100027, China Tel: +86-10-5829 1808 Fax: +86-10-5829 1999
Berger Hill Limited (JV Company)		Palazzo Pietro Stiges', 90, Strait Street, Valletta VLT 1436, Malta
Qatar Branch	N/A	
Egypt Branch	N/A	
Boyken International, Inc.		400 Northridge Road, Suite 1200, Atlanta, Georgia 30350
Gerencia International de Proyectos, SA de C.V.		Avenida Nichupte, 19, Supermanzana 19, Manzana 2, Plaza Galerias Infinity 1a, of. 107, Cancun, Quintana Roo, Mexico, Cp. 775500
Gerens Hill International, SA	[redacted]	8 Jose Echegaray Street, Building 3, 1a, Las Rozas (Madrid)
Hill Construction Management Ltd.	[redacted]	Bulevar Mihajla Pupina str No. 10V/423, 11070 Novi Beograd-- Tel:
Hill Fenton Development, Ltd. (JV Company)		30 DeCastro Street, Road Town, Tortola, British Virgin Islands
Hill International (Algeria)		
Hill International (Australia) Pty Limited *(p/k/a Knowles Australia Pty Limited)*	[redacted]	Suite 101 Level 1, 2 Bligh Street, Sydney NSW 2000 Australia -- Tel: +00 612-9222-1799 -- Fax: +00 612-9222-1788
Hill International (Azerbaijan) Limited	[redacted]	Baker & McKenzie - CIS Limited, 96, Nizami Street, The Landmark Building, Baku AZ1010, Azerbaijan (Job site): 78 Parliament Ave, Baku, Azebaijan
Hill International (Belarus) Ltd (on hold)		
Hill International (Bucharest) SRL	[redacted]	Bucharest, district 1, 17-19 Dr. Iacob Felix, 3rd Floor, Romania -- Tel: +40-21-319-5248 -- Fax: +40-21-319-5268 Contact: Costas Gravanis
Hill International (Deutschland) GmbH *(p/k/a James R Knowles (Deutschland) GmbH)*	[redacted]	Prinzregentenstr. 20-22, D-80538 Munich, Germany
Dusseldorf Branch	N/A	Zweigniederlassung,, Dusseldorf 40213, Geschaftsanschrift Graf Adof Platz 15, D 40213, Dusseldorf Contact: Thomas Hans-Hofbauer
Hill International (Egypt)		39 Beirut Street, Heliopolis 11341, Cairo, Egypt -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International (Egypt) Ltd.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Hill International (Georgia) Ltd.		Bucharest, district 1, 17-19 Dr. Iacob Felix, 3rd Floor, Romania -- Tel: +40-21-319-5259 -- Fax: +40-21-319-5279 Contact: Costas Gravanis
Hill International (Hellas), S.A.	[redacted]	62 Kifissias Avenue, 151 25 Maroussi, Athens, Greece -- Tel: +30-210-610-5171 -- Fax: +30-210-610-5172
Hill International (Hong Kong) Ltd. *(p/k/a Hill International (HK) Limited* *p/k/a Pickavance Consulting Limited)*	[redacted]	2401 Wing on Centre, 111 Connaught Road, Central, Hong Kong -- Tel: +852-2542-2818 -- Fax: +852-2541-4648
Japan Branch	N/A	2401 Wing on Centre, 111 Connaught Road, Central, Hong Kong -- Tel: +852-2542-2818 -- Fax: +852-2541-4648
Hill International (Kazakhstan) (on hold)		
Hill International (Kuwait) Ltd.	[redacted]	Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT 1463, Malta
Hill International (Libya) Ltd.		Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT1463, Malta -- Tel: 856-810-6200 -- Fax: 856-810-0404
Registration in Libya	[redacted]	Ben Ghazi, Garyounis District, Building No. 126, Flat No. 7
Hill International (Middle East) Ltd.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Malta : Mind and Management moved to Malta eff 12/5/2008 and the company registered as an Overseas Company in Malta		Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT 1463, Malta

Business Name	EIN	Address
Bahrain Branch	N/A	Al-Rossais Tower, 9th Floor, Bldg 283, Road No. 1704, Area 317, Office 93, Diplomatic Area, PO Box 21034, Manama, Kingdom of Bahrain
Dubai Branch	N/A	Sultan Business Centre, Offices 501, Plot number 11 , Oud Metha Road, Dubai (Sec Cert. 7 Mar 08) Contact: Rick Brown and Samantha Sogolo
Kuwait Branch	N/A	c/o System Development and Project Management, PO Box 13385 Kifan, 71954, Kuwait Contact: Rick Brown and Samantha Sogolo
Morocco Branch	N/A	Contact: Rick Brown and Samantha Sogolo
Saudi Arabia Branch	N/A	Bin Homran Centre, Tahliya Street, Suite 410-A, Medina Road, Jeddah, Kingdom of Saudi Arabia Contact: Rick Brown and Samantha Sogolo
Hill International (Morocco) s.a.r.l.	[redacted]	219, BD. Zerktouni, Residence El Bardai, Casablanca, Morocco
Hill International (North Africa) Ltd.	[redacted]	City Stars, Star Capital 8, 6th floor, Office No. 62, El Forsan St Nasr City, Cairo, Egypt -- Tel:+202 24801900 Fax: +202 24801903
Hill International (Puerto Rico), Inc.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International (Syria) LLC		establishing
Hill International (Syria) Ltd.	[redacted]	"Palazzo Pietro Stiges", 90 Strait Street, Valletta VLT1463, Malta
Hill International (UK) Ltd.		1 London Bridge, London, SE1 9BG -- Tel: +44-20-7089-7020 -- Fax: +44-20-7089-7030
Romania Branch	N/A	Municipiul Bucuresti, Sector 1, B-DUL Nicolae Titulescu, Nr. 1, Bl.A7, Sc.4, Et.1, Ap 96
Hill International Development (II) Ltd.		303 Lippincott Centre, Marlton, NJ 08053
Hill International Development Ltd.		303 Lippincott Centre, Marlton, NJ 08053
Hill International Holdings Ltd	[redacted]	Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT 1463, Malta
Hill International Hospitality (Americas) Ltd.		303 Lippincott Center, Marlton, NJ 08053
Hill International Malaysia Sdn Bhd (p/k/a James R. Knowles (M) Sdn Bhd)	[redacted]	Level 7, Unit 7, Block 3B, Plaza Sentral, Jalan Stesen Sentral 5, Kuala Lumpur Sentral, 50470 Kuala Lumpur -- Tel: +603-2274-0917 -- Fax: +603-2274-0918
Hill International Petrol (Egypt) Ltd. (JV Company)		39 Beirut Street, Floor 10, Heliopolis, Cairo Contact: Sarah Hussenein
Hill International Project Management (India) Private Limited		
Hill International Real Estate, LLC	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Hill International Real Estate Partners, LP		303 Lippincott Centre, Marlton, NJ 08053
Hill International Rijeka d o.o.		Rijeka, Nikole, Tesle 9, Croatia -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International S A.	N/A	41 Boulevard Prince Henri L 1724 Luxembourg -- Tel: 011-352-46-83-83 -- Fax: 011-352-46-84-84
Greek Branch (registered in Greece)	N/A	62 Kifissias Avenue, Maroussi,Athens 151 25, Greece
Latvia Branch (registered in Latvia)	N/A	13-36 Dzirnavu Street, Riga, LV-1010
Romania Branch	N/A	Municipiul Bucuresti, Sector 1, B-DUL Nicolae Titulescu, Nr. 1, Bl.A7, Sc.4, Et.1, Ap 96
Hill International Sp.zo.o(p/k/a Euromost Polska)	[redacted]	Atrium Plaza, Jana Pawla II 29, 00-867 Warsaw, Poland Tel: +48 22 58 13 777 Fax: +48 22 58 13 778
Hill International Services Ltd.	[redacted]	30 DeCastro Street, Road Town, Tortola, BVI -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International Vietnam Co. Limited		Temporary: 7th Floor, Building B2, Vinh Trung Plaza, Bing Trung Ward, Danang City, SR of Vietnam
Hill Jianke Project Management (Shanghai) Co. Ltd. (JV Company)		Room No. 208, Unit F, Building 5, No. 7 Xiushan Road, Chongming Industrial Park, Chongming County, Shanghai, Ching
Hill Redwood Development Corp.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053 also c/o ZAC Management Group LLC, 101 West Avenue, Suite 300, Jenkintown, PA 19046
Hill Redwood Development, Ltd (JV Company)	[redacted]	30 de Castro Street, Road Town, Tortola, British Virgin Islands
Hill TMG International (JV Company)		36 Mosadak Street, Al-Doki, Giza
I M Petroleum Services Ltd.		30 de Castro Street, Road Town, Tortola, British Virgin Islands
James R. Knowles (Australian Holdings) Pty Limited	[redacted]	Suite 101 Level 1, 2 Bligh Street, Sydney NSW 2000 Australia -- Tel: +00 613 9699 5124 -- Fax: +00 61 3 9699 5104 Contact: Anna Empy

Business Name	EIN	Address
James R. Knowles (Egypt) Limited	[redacted]	119 Misr Helwan Agricultural Road, Maadi, Cairo, Flat 42, Egypt -- Tel: +20-2-525-4115 -- Fax: +20-2-525-4118
James R. Knowles (Holdings) Limited	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
James R. Knowles (Hong Kong) Limited	[redacted]	2401 Wing on Centre, 111 Connaught Road, Central, Hong Kong -- Tel: +852-2542-2818 -- Fax: +852-2541-4648
James R. Knowles (Middle East) Limited	[redacted]	
James R. Knowles (NSW) Pty Limited		Suite 101 Level 1, 2 Bligh Street, Sydney NSW 2000 Australia -- Tel: +00 613 9699 5124 -- Fax: +00 61 3 9699 5104
James R. Knowles (Overseas) Limited	[redacted]	
James R. Knowles (Thailand) Ltd.		
James R. Knowles (Worldwide) Limited	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
James R. Knowles Global Limited	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
John Shreeves and Partners Limited		1 London Bridge, SE 1, 9BG, London EC1M 5RR -- Tel: +44-20-7596-0000 -- Fax: +44-20-7596-0100
John Shreeves Holdings Limited		1 London Bridge, SE 1, 9BG, London EC1M 5RR -- Tel: +44-20-7596-0000 -- Fax: +44-20-7596-0100
KJM & Associates, Ltd.	[redacted]	500 108th Avenue NW, Suite 1000, Bellevue, WA 98004 -- Tel: 425-451-3881 -- Fax: 425-454-8965
Knowles Consultancy Services Inc.	[redacted]	15999 Hurontario Street, Suite 106, Mississauga, Ontario L5G451 Canada -- Tel: 905-804-1958 -- Fax: 905-804-9327
Knowles Director Inc.		Ajeltake Road, Ajeltak Island, Majuro, Marshall Islands MH96960 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Knowles Hill Pty Limited *(p/k/a Knowles Lawyers Pty Limited)*	[redacted]	
Knowles Limited	[redacted]	
Knowles North America Holdings Inc.		3660 Hurontario Street, 6th Floor, Mississauga, Ontario L5B3C4
Knowles Secretary Inc.		Ajeltake Road, Ajeltak Island, Majuro, Marshall Islands MH96960 -- Tel: 856-810-6200 -- Fax: 856-810-0404
KRJ Consulting Limited *(p/k/a James R Knowles Limited)*	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
Makan Hill International Ltd. (JV Company)		Pending: Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands
Mediterranean Leisure (Egypt) Ltd.		30 de Castro Street, Wickhams Cay 1, Road Town, Tortola, British Virgin Islands
PCI Group, LLC	[redacted]	10801 West Charleston, Suite 650, Las Vegas, NV 89135 Tel: 702-515-7490 Fax: 702-515-7491
SIA Hill International Baltic	[redacted]	Elizabetes str.15-1 Riga, Latvia LV-1010 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Singapore Hill International Pte Limited *(p/k/a James R. Knowles (Singapore) Pte Ltd)*	[redacted]	331 North Bridge Road, #12 01/02, Odeon Towers, Singapore 188720 - Tel: +00 65 6338 2455 -- Fax: +00 65 6339 8568
Stanley Baker Hill (Iraq), Inc. (JV Company)		303 Lippincott Centre, Marlton, NJ 08053 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Stanley Baker Hill, LLC (JV Company)	[redacted]	225 Iowa Avenue, Muscatine, IA -- Tel: 563-264-6204 -- Fax: 563-264-6658
Transportation Construction Services, Inc.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Yeil Hill International CM Ltd. (JV Company)		Lotte Kwanak Tower, room 402, 395-67 Shindaebang-dong, Dongjak-gu, Seoul, Korea 156-711 Tel: 82-2-849-5660 Fax: 82-2-849-5661

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   Gannett Fleming, Inc.

2. Business Address (to receive mail for this RFP):

   1037 Raymond Boulevard, Suite 1420

   Newark, NJ 07102-5427

3. Business Telephone Number: 973-368-0762

4. Business Fax Number: 973-799-0650

5. Firm website: www.gfnet.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 8 / 1 / 1915

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

Subsidiary of Gannett Fleming, Inc.: Gannett Fleming of Michigan, Inc. (23-1855638)
Affiliates of Gannett Fleming, Inc.: Ganflec Architects and Engineers, Inc. (23-2059264); Gannett Fleming West, Inc. (74-2480543); Gannett Fleming Engineers and Architects, P.C. (23-2935505); Gannett Fleming Engineers, P.C. (52-2151596); GF Caribe Engineers, P.S.C (66-0573581) All companies' financial heaquarters are located at: P.O. Box 67100 Harrisburg, PA 17106-7100

9. Officer or Principal of Firm and Title:

   Raymond L. Hofsass, P.E., Vice President

10. Name, telephone number, and email address of contact for questions:
    Michael T. McNamara, P.E., Phone: 610-650-7730

    E-mail: mmcnamara@gfnet.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

Gannett Fleming, Inc. Affiliates

Subsidiary of Gannett Fleming, Inc.:

- Gannett Fleming of Michigan, Inc.

Affiliates of Gannett Fleming, Inc.:

- Ganflec Architects and Engineers, Inc.
- Gannett Fleming West, Inc.
- Gannett Fleming Engineers and Architects, P.C.
- Gannett Fleming Engineers, P.C.
- GF Caribe Engineers, P.S.C.

"Quality professional relationships, in both the business and technical areas, have made working with Gannett Fleming a pleasure."

Jeffrey D. Knueppel, P.E.
Chief Engineer Infrastructure
SEPTA

Cost

Cost

Please see the attached fee spreadsheet.

Principal-In-Charge						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
J Sais, PE	Systra	$150 00	N/A	$150 00	N/A	$150 00
J Palmer, P E	Hill	$150 00	N/A	$150 00	N/A	$150 00
M McNamara	Gannett Fleming	$150 00	N/A	$150 00	N/A	$150 00
Quality Assurance						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
B Smith	Gannett Fleming	$53 50	2 57	$137 50	2 83	$151 41
Project Manager						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
R Spero	Systra	$76 78	2 43	$186 58	2 84	$218 06
Senior Planning Manager						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
José A Diaz, P E	Hill	$84 58	2 35	$198 76	2 99	$252 89
Field Coordinators						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
H Morton	Gannett Fleming	$40 70	2 57	$104 60	2 83	$115 18
R Funk	Systra	$66 85	2 43	$162 45	2 84	$189 85
N. Torres	Systra	$76 78	2 43	$186 58	2 84	$218 06
K. Hunt	Systra	$79 25	2 43	$192 58	2 84	$225 07
P Gentle	Hill	$103 99	2 35	$244 38	2 99	$310 93
G. Duda	Hill	$71 80	2 35	$168 73	2 99	$214 68
J. Mortimer, Jr.	Hill	$89 13	2 35	$209 46	2 99	$266 50
J. Lehman	Hill	$76 26	2 35	$179 21	2 99	$228 02
W. Krauss	Hill	$55 96	2 35	$131 51	2 99	$167 32
G. Chopra	Hill	$66 85	2 35	$157 10	2 99	$199 88
D. Coffield	Hill	$67 84	2 35	$159 42	2 99	$202 84
K. Mohlenbrok	Hill	$69 82	2 35	$164 08	2 99	$208 76
E. Spotts	Gannett Fleming	$52 90	2 57	$135 95	2 83	$149 71
Plan Coordinators						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
N Torres	Systra	$76 78	2 43	$186 58	2 84	$218 06
R Miller	Systra	$59 58	2 43	$144 78	2 84	$169 21
K. Hunt	Systra	$79 25	2 43	$192 58	2 84	$225 07
M Barrow	Systra	$84 82	2 43	$206 11	2 84	$240 89
F Colucci	Hill	$82 00	2 35	$192 70	2 99	$245 18
W Vigrass	Hill	$61 80	2 35	$145 23	2 99	$184 78
D Gryszko	Hill	$55 46	2 35	$130 33	2 99	$165 83
E Fox	Hill	$63 38	2 35	$148 94	2 99	$189 51
T Wilson, Jr	Hill	$56 70	2 35	$133 25	2 99	$169 53
R G Baggs	Gannett Fleming	$75 20	2 57	$193 26	2 83	$212 82
E Breslin	Gannett Fleming	$70 00	2 57	$179 90	2 83	$198 10
W Simms, Jr	Gannett Fleming	$70 20	2 57	$180 41	2 83	$198 67

Schedulers

Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
S Malaszecki	Envision	$66 26	2 28	$151 07	2 66	$176 25
P Rudderow	Envision	$58 04	2 28	$132 33	2 66	$154 39
H Abdelgelil	Hill	$68 83	2 35	$161 75	2 99	$205 80
B Hanna	Hill	$63 78	2 35	$149 88	2 99	$190 70
A Bytyci	Hill	$51 00	2 35	$119 85	2 99	$152 49
M Syrnick	Hill	$45 56	2 35	$107 07	2 99	$136 22

Cost Engineers

Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
C Bossard	Hill	$67 35	2 35	$158 27	2 99	$201 38
B Goodman	Hill	$52 00	2 35	$122 20	2 99	$155 48
L Law	Hill	$49 52	2 35	$116 37	2 99	$148 06
C Abelow	Hill	$33 18	2 35	$77 97	2 99	$99 21
T Malave	Hill	$45 77	2 35	$107 56	2 99	$136 85

Support Experts - Signals & Communications

Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
J Catarino	Systra	$45 78	2 43	$111 25	2 84	$130 02
J Hofbauer	Systra	$74 57	2 43	$181 21	2 84	$211 78
D Male	Systra	$90 64	2 43	$220 26	2 84	$257 42
H Peer	Systra	$71 64	2 43	$174 09	2 84	$203 46
R Troup	Systra	$72 56	2 43	$176 32	2 84	$206 07
D Pritchard	Gannet Fleming	$63 80	2 57	$163 97	2 83	$180 55

Support Experts - Traction Power

Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
B Stell	Systra	$73 54	2 43	$178 70	2 84	$208 85
B Swartley	Systra	$65 46	2 43	$159 07	2 84	$185 91
M Maziarz	Systra	$68 54	2 43	$166 55	2 84	$194 65
G Chopra	Hill	$66 85	2 35	$157 10	2 99	$199 88

Support Experts - Facilities, Civil & Track

Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
E Nicholson	Hill	$83 69	2 35	$196 67	2 99	$250 23
P Gentle	Hill	$103 99	2 35	$244 38	2 99	$310 93
J Lehman	Hill	$76 26	2 35	$179 21	2 99	$228 02
J Bonsignore	Systra	$78 04	2 43	$189 64	2 84	$221 63
D Fordham	Systra	$85 64	2 43	$208 11	2 84	$243 22
J Sais	Systra	$80 75	2 43	$196 22	2 84	$229 33
R Thomas	Systra	$76 37	2 43	$185 58	2 84	$216 89

Support Experts - Rail Operations

Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
E Nicholson	Hill	$83 69	2 35	$196 67	2 99	$250 23
P Gentle	Hill	$103 99	2 35	$244 38	2 99	$310 93
G Nazarow	Gannett Fleming	$60 90	2 57	$156 51	2 83	$172 35
D Truesdell	Gannett Fleming	$49 30	2 57	$126 70	2 83	$139 52
J Black	Systra	$66 07	2 43	$160 55	2 84	$187 64
D Dure	Systra	$61 80	2 43	$150 17	2 84	$175 51
N Ham	Systra	$63 65	2 43	$154 67	2 84	$180 77

Subconsultant - Railcar Specialist						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
S Noonan	Interfleet Technology	$88 07	3 27	$287 99	3 27	$287 99
J Wiesinger	Interfleet Technology	$83 58	3 27	$273 31	3 27	$273 31
F Woolsey	Interfleet Technology	$70 92	3 27	$231 91	3 27	$231 91
Subconsultant - Systems Engineering, Construction Inspections						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
M Gambhir	Garg (MBE)	$61 80	2 21	$136 58	2 39	$147 70
S Mahajan	Garg (MBE)	$43 28	2 21	$95 65	2 39	$103 44
K Murthy	Garg (MBE)	$46 40	2 21	$102 55	2 39	$110 90
D Colavecchio	Garg (MBE)	$47 59	2 21	$105 17	2 39	$113 73
P Goodwin	Garg (MBE)	$40 94	2 21	$90 48	2 39	$97 85
D Ordas	Garg (MBE)	$51 50	2 21	$113 82	2 39	$123 09
Subconsultant - Design Review and Track						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
M Longi	Longi (MBE)	$70 00	2 45	$171 50	2 45	$171 50
W Caggiano	Longi (MBE)	$50 00	2 45	$122 50	2 45	$122 50
P Cohen	Longi (MBE)	$45 00	2 45	$110 25	2 45	$110 25
Subconsultant - Design Review and Inspections						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
R Hallahan	HAKS (MBE)	$91 50	N/A	N/A	2 6	$237 90
R Gallup	HAKS (MBE)	$72 12	N/A	N/A	2 6	$187 51
F Verderame	HAKS (MBE)	$60 00	2 32	$139 20	N/A	N/A
D Fickinger	HAKS (MBE)	$52 00	2 32	$120 64	N/A	N/A
Subconsultant - Cost Estimating and Scheduling						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
T Burns	Keville (WBE)	$43 27	2 24	$96 92	2 45	$106 01
T Myers	Keville (WBE)	$37 04	2 24	$82 97	2 45	$90 75
L Forrest	Keville (WBE)	$49 62	2 24	$111 15	2 45	$121 57
J Hollman	Keville (WBE)	$48 64	2 24	$108 95	2 45	$119 17
Subconsultant - Scheduling						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
P Rudderow	Envision	$58 04	2 28	$132 33	2 66	$154 39
Subconsultant - Planning, Vehicle and Safety Certification						
Name	Company	2010* Hourly Rate	Field Multiplier	2010 Field Billing Rate	Home Office Multiplier	2010 Home Office Billing Rate
E Boni	Interactive Elements	$88 46	2 52	$222 92	2 72	$240 61
M Butchko	Interactive Elements	$60 38	2 52	$152 16	2 72	$164 23
M Cephas	Interactive Elements	$59 70	2 52	$150 44	2 72	$162 38

Note*: Subsequent to 2010, Hourly Rates will be escalated by 3%.

Field and Home Office Multipliers include a profit of 10%.

SYSTRA Consulting, Inc. and SYSTRA Engineering, Inc.
Schedules of Field Office Direct Labor, Burden, Fringe and Overhead
For the year ended December 31, 2008
($000s Omitted)

	Home Office	Percentage of Home Office Labor
BURDEN AND FRINGE		
Payroll Taxes	$ 902.0	13.1%
Workers Compensation	59.5	0.9%
Vacations	856.5	12.4%
Holiday/Sick Pay	579.9	8.4%
Retirement and Thrift Plan	538.9	7.8%
Group Medical/Dental	892.5	12.9%
Employee Bonus Program	8.9	0.1%
Severance	97.3	1.4%
Comprehensive General Liability	17.2	0.2%
Transit Checks and Other Benefits	42.5	0.6%
TOTAL BURDEN AND FRINGE	3,995.2	57.8%
OVERHEAD		
General Labor	3,095.1	44.9%
Travel	270.0	3.9%
Supplies	325.8	4.7%
Communication	257.6	3.7%
Reproduction	98.7	1.4%
Professional Fees	529.8	7.7%
Employee Activities	116.3	1.7%
Recruiting and Relocation	53.4	0.8%
Occupancy - Rent	1,497.6	21.7%
Depreciation	214.0	3.1%
Insurance E&O	478.7	6.9%
Proposal Expense	109.5	1.6%
Work Improvement Programs	915.3	13.3%
Other Miscellaneous	377.7	5.5%
TOTAL OVERHEAD	8,339.5	120.9%
TOTAL BURDEN AND FRINGE, OVERHEAD	**$ 12,334.7**	**178.7%**
DIRECT LABOR BASE - HOME OFFICE	$ 6,900.0	
DIRECT LABOR BASE - TOTAL	$ 7,743.9	
DIRECT LABOR HOME OFFICE / DIRECT LABOR TOTAL	89.1%	

SYSTRA Consulting, Inc. and SYSTRA Engineering, Inc.

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For the year ended December 31, 2008
($000s Omitted)

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DIRECT LABOR BASE - TOTAL	$ 7,743.9	
DIRECT LABOR HOME OFFICE / DIRECT LABOR TOTAL	89.1%	

HILL INTERNATIONAL, INC.
CALCULATION OF OVERHEAD RATES
YEAR ENDED DECEMBER 31, 2008

	PER FINANCIALS	ADJUST	ADJUSTED AMOUNT	NOTES	ALLOC. %	FIELD	OFFICE
DIRECT LABOR	$32,193,010		$32,193,010			$17,801,588	$14,391,422
INDIRECT EXPENSES							
UNAPPLIED SALARIES - FIELD	4,040,851		4,040,851		100.00%	4,040,851	0
UNAPPLIED SALARIES - OFFICE	5,465,242		5,465,242		0.00%	0	5,465,242
ADMINISTRATIVE SALARIES	16,372,943	(1,155,494)	15,217,449	1	52.38%	7,970,900	7,246,549
TAXES AND FRINGES	10,852,709		10,852,709		52.38%	5,684,649	5,168,060
BUSINESS DEVELOPMENT	1,604,117	(1,236,650)	367,467	2	52.38%	192,479	174,988
PROFESSIONAL MEMBERSHIPS	165,535	(12,850)	152,685	2	52.38%	79,976	72,709
LIBRARY	89,392		89,392		23.67%	21,159	68,233
RECRUITING	270,240	(67,560)	202,680	3	52.38%	106,164	96,516
INSURANCE	1,649,208		1,649,208		52.38%	863,855	785,353
PROFESSIONAL FEES	5,420,289	(1,262,921)	4,157,368	4	52.38%	2,177,629	1,979,739
TRAVEL & ADMIN COSTS	3,382,857	(845,516)	2,537,341	5	52.38%	1,329,059	1,208,282
AUTOMOBILES	96,284	(96,284)	0	6	52.38%	0	0
BUSINESS MEETINGS	42,606	(3,974)	38,632	7	23.67%	9,144	29,488
TUITION	87,166		87,166		52.38%	45,658	41,508
COMPUTER MAINTENANCE	1,922,971		1,922,971		23.67%	455,167	1,467,804
OFFICE EQUIP MAINTENANCE	7,071		7,071		23.67%	1,674	5,397
OFFICE SUPPLIES	289,349		289,349		23.67%	68,489	220,860
RENT	4,077,348		4,077,348		23.67%	965,108	3,112,240
REPRODUCTION	351,782		351,782		23.67%	83,267	268,515
TELEPHONE	1,003,325		1,003,325		23.67%	237,487	765,838
POSTAGE	259,749		259,749		23.67%	61,483	198,266
STATIONARY & PRINTING	97,385		97,385		23.67%	23,051	74,334
OFFICE EXPENSE	798,293	(179,481)	618,812	8	23.67%	146,473	472,339
BUILDING MAINTENANCE	56,252		56,252		23.67%	13,315	42,937
DEPRECIATION	1,470,787		1,470,787		23.67%	348,135	1,122,652
BAD DEBT EXPENSE	537,264	(537,264)	0	9		0	0
INTEREST EXPENSE	519,925	(519,925)	0	9		0	0
OTHER INDIRECTS	2,623,362	(2,623,362)	0	9		0	0
GOODWILL AMORTIZATION	1,556,580	(1,556,580)	0	9		0	0
ALLOCATED CORPORATE	(8,988,628)		(8,988,628)		52.38%	(4,708,243)	(4,280,385)
TOTAL INDIRECT EXPENSES	$56,122,254	($10,097,861)	$46,024,393			$20,216,929	25,807,464
OVERHEAD RATE						113.57%	179.33%

See accompanying notes and accountant's report.

Gannett Fleming Engineering Companies
Combined Schedule of Direct Labor and Indirect Costs*
Home Office Indirect Cost Rate
Year Ended December 31, 2008

3-Sep-09

	Amount	%
DIRECT LABOR	67,456,422	100.00
INDIRECT COSTS		
Payroll Burden		
Salaries		
Holiday	3,180,282	4.71
Paid Time Off	7,812,674	11.58
Sick Leave	297,295	0.44
Employee Benefits		
Payroll and Unemployment Taxes	9,059,189	13.43
Workers' Compensation	769,698	1.14
Group Life Insurance	280,910	0.42
Medical and Dental Insurance	7,730,729	11.46
Long-Term Disability Insurance	72,084	0.11
Pension Plan	5,280,248	7.83
Other	427,585	0.63
	34,910,694	51.75
General and Administrative Costs		
Salaries		
Administrative, General Office, Accounting, and Clerical	6,042,456	8.96
Technical Non-Project	9,625,357	14.27
Recruitment and Personnel	922,387	1.37
Proposal and Precontract	13,980,316	20.72
Training and Professional Development	2,097,001	3.11
Systems Development	3,045,458	4.51
Maintenance and Other	107,305	0.16
Bonuses and Deferred Compensation	7,019,051	10.41
Insurance	2,079,271	3.08
Property Rental	9,018,722	13.37
Equipment Rental	38,840	0.06
Maintenance and Repairs	2,544,449	3.77
Office Relocation	6,013	0.01
Utilities	259,630	0.38
Depreciation	1,630,118	2.42
Amortization	0	0.00
Telephone	1,384,434	2.05
Outside Service Costs		
Computer Services	198,267	0.29
Copying and Reproduction	1,612,099	2.39
Temporary Office Services	258,741	0.38
Proposal and Precontract	889,359	1.32
Entertainment	0	0.00
Recruitment and Personnel	511,436	0.76
Employee Relocation	55,743	0.08
Professional Registrations, Dues, and Memberships	477,614	0.71
Books and Periodicals	144,260	0.21
Professional Meetings, Seminars, and Conventions	1,477,114	2.19
Other Business Travel	655,462	0.97
Company Automobile Usage	336,168	0.50
Supplies and Materials	1,652,164	2.45
Postage , Freight, and Courier Services	263,333	0.39
Advertising and Promotion	0	0.00
Professional and Consultant Services		
Legal	103,920	0.15
Accounting	660,573	0.98
Other	1,233,684	1.83
Interest	0	0.00
Taxes		
Federal Income	0	0.00
State Income	203,555	0.30
Other	435,414	0.65
Filing Fees, Notary Fees, and Licenses	126,545	0.19
Fines and Penalties	0	0.00
Contributions and Lobbying Costs	0	0.00
Bad Debts	0	0.00
Other	-214,058	-0.31
	70,882,201	105.08
TOTAL INDIRECT COSTS	105,792,895	156.83

*Rate derived using a formula developed and accepted by several state agencies

Gannett Fleming Engineering Companies
Combined Schedule of Direct Labor and Indirect Costs*
Field Indirect Cost Rate
Year Ended December 31, 2008

3-Sep-09

	Amount	%
DIRECT LABOR	3,348,550	100.00
INDIRECT COSTS		
Payroll Burden		
Salaries		
Holiday	157,871	4.71
Paid Time Off	387,826	11.58
Sick Leave	14,758	0.44
Employee Benefits		
Payroll and Unemployment Taxes	449,704	13.43
Workers' Compensation	38,208	1.14
Group Life Insurance	13,945	0.42
Medical and Dental Insurance	383,758	11.46
Long-Term Disability Insurance	3,578	0.11
Pension Plan	262,115	7.83
Other	21,226	0.63
	1,732,989	51.75
General and Administrative Costs		
Salaries		
Administrative, General Office, Accounting, and Clerical	299,951	8.96
Technical Non-Project	477,809	14.27
Recruitment and Personnel	45,788	1.37
Proposal and Precontract	693,992	20.73
Training and Professional Development	104,096	3.11
Systems Development	0	0.00
Maintenance and Other	5,327	0.16
Bonuses and Deferred Compensation	348,430	10.41
Insurance	103,216	3.08
Property Rental	154,869	4.62
Equipment Rental	667	0.02
Maintenance and Repairs	43,693	1.30
Office Relocation	299	0.01
Utilities	4,458	0.13
Depreciation	27,992	0.84
Amortization	0	0.00
Telephone	23,773	0.71
Outside Service Costs		
Computer Services	3,405	0.10
Copying and Reproduction	27,683	0.83
Temporary Office Services	12,844	0.38
Proposal and Precontract	44,148	1.32
Entertainment	0	0.00
Recruitment and Personnel	25,388	0.76
Employee Relocation	2,767	0.08
Professional Registrations, Dues, and Memberships	23,709	0.71
Books and Periodicals	7,161	0.21
Professional Meetings, Seminars, and Conventions	73,325	2.19
Other Business Travel	32,538	0.97
Company Automobile Usage	16,688	0.50
Supplies and Materials	28,371	0.85
Postage , Freight, and Courier Services	4,522	0.14
Advertising and Promotion	0	0.00
Professional and Consultant Services		
Legal	5,159	0.15
Accounting	32,791	0.98
Other	61,241	1.83
Interest	0	0.00
Taxes		
Federal Income	0	0.00
State Income	10,105	0.30
Other	7,477	0.22
Filing Fees, Notary Fees, and Licenses	6,282	0.19
Fines and Penalties	0	0.00
Contributions and Lobbying Costs	0	0.00
Bad Debts	0	0.00
Other	-10,826	-0.32
	2,749,338	82.11
TOTAL INDIRECT COSTS	4,482,327	133.86

*Rate derived using a formula developed and accepted by several state agencies

INTERFLEET TECHNOLOGY, INC.

Overhead Rate Schedule
Year End March 31, 2009

	General Ledger Balance	Exclusions		Direct Costs	Allowable Indirect Costs
Direct labor	$ 788,882	$ -		$ 788,882	$ -
General overhead:					
Stationery	5,480	-		-	5,480
Miscellaneous supplies	1,396	-		434	962
Automobile rental	3,281	276	(1)	1,268	1,737
Contracted services	65,403	1,894	(2),(3),(7)	49,160	14,349
Leased equipment	4,321	362	(7)	-	3,959
Subcontracted labor	235,170	-		192,280	42,890
Indirect payroll	690,191	-		-	690,191
Payroll taxes	111,174	-		-	111,174
Medical insurance	119,980	1,600	(7)	-	118,380
Pension	60,044	-		-	60,044
Depreciation	18,707	-		-	18,707
Travel	226,630	19,793	(1),(2),(11)	130,145	76,692
Rent	98,783	-		-	98,783
Postage	3,697	108	(7)	2,423	1,166
Telephone	37,481	-		1,432	36,049
Utilities	3,170	-		-	3,170
Computer support and supplies	16,568	-		372	16,196
Gifts	32	32	(9)	-	-
Dues and subscriptions	13,080	558	(10)	-	12,522
Meals and entertainment	11,986	4,717	(2),(3),(11)	-	7,269
Recruitment advertising	915	-		-	915
Audit fees	3,750	-		-	3,750
Training	3,385	244	(2)	-	3,141
Legal and accounting fees	10,351	610	(7)	400	9,341
Consultants	28,695	8,031	(10)	20,639	25
Business insurance	96,061	3,618	(7)	-	92,443
Home office costs	546,046	13,523	(1),(2),(3),(6)	407,071	125,452
Bad debt	1,057	1,057	(4)	-	-
Miscellaneous expense	3,183	2,977	(1), (5)	-	206
Bank charges	2,811	2,746	(5)	15	50
Tax penalties	262	262	(5)	-	-
Corporate and sales and use tax	4,381	4,381	(7)	-	-
Foreign currency translation for intercompany debt	(1,377,139)	(1,377,139)	(8)	-	-
Interest	156,951	156,951	(8)	-	-
	$ 1,996,165	$ (1,153,399)		$ 1,594,521	$ 1,555,043

General and Administrative Overhead Rate = Allowable Indirect Costs / Direct Labor = $ 1,555,043 / $ 788,882 = 197.1198%

Note References:
1. Travel expenses that exceed the standard per diem rates are unallowable per FAR 31.20-46.
2. Entertainment costs are unallowable per FAR 31.205-14.
3. Public relations and advertising expenses are unallowable per FAR 31.205-1.
4. Bad debt expense is unallowable per FAR 31.205-3.
5. Late fees and fines are unallowable per FAR 31.205-15.
6. Related party charges are unallowable per FAR 31.205-36.
7. Expenses related to prior years are unallowable per FAR 31.201-4.
8. Interest and financing costs are unallowable per FAR 31.205-20.
9. Gifts are unallowable per FAR 31.205-13.
10. Lobbying is unallowable per FAR 31.205-22.
11. Cost of alcoholic beverages is unallowable per FAR 31.205-51.

D - MULTIPLIER'S COMPONENTS

The following are the multiplier components for Garg Consulting Services, Inc. for the year 2008.

	Home	Field
A. FRINGE BENEFITS	**40.59%**	**40.59%**
Payroll Taxes		
Salary Adjustment / Bonus		
Vacation/Holiday/Sick		
Group Life Insurance		
Group Health Insurance		
S-T Disability		
401K Match Contribution		
Relocation Expenses		
B. GENERAL OVERHEAD	**76.58%**	**59.88%**
Indirect Payroll – Principals		
Indirect Payroll – Employees		
Professional Liability Insurance		
401K Administration Expenses		
Auto Insurance		
Business Insurance		
Property Tax		
Legal and Accounting Fees		
Engineering Supplies		
Admin Equipment Operations Lease		
Bank and Payroll Service Charges		
Rent		
Cleaning		
Repairs		
Office Supplies		
Computer Supplies		
Tech/Field Supplies		
Recruitment		
Telephone		
Utilities		
Dues and Publications		
Licenses		
Misc. Expenses		
Postage/Shipping		
Auto/Travel		
Seminars/Professional Education		
Depreciation		
State Corp. Income Tax		
Workers Compensation Insurance		
Facility Cap Cost		
C. PROFIT	**10%**	**10%**

LONGI ENGINEERING
GENERAL OVERHEAD BURDEN
January 1 - December 31, 2008
Accrual Basis

	Allowable Overhead Expense	Unallowable Overhead Expense	Direct Expense	Total Expense	Percent
Payroll Burden					
Social Security & Medicare	$ 33,091 21			$ 33,091 21	12 06%
Unemployment Insurance	$ 8,298 18			$ 8,298 18	3 02%
Engineering Overhead					
Insurance	$ 13,609 44			$ 13,609 44	4 96%
Office Expense	$ 13,626 40		$ 54 17	$ 13,680 57	4 97%
Rent	$ 27,800 00			$ 27,800 00	10 13%
Messenger and Delivery	$ 1,787 33			$ 1,787 33	0 65%
Corporation Tax	$ 400 00			$ 400 00	0 15%
Auto & Travel	$ 1,814 28		$ 2,500 00	$ 4,314 28	0 66%
Depreciation and Amortization	$ 2,685 48			$ 2,685 48	0 98%
General & Administrative					
Health Insurance	$ 24,573 29			$ 24,573 29	8 96%
Bank Charges	$ 3,185 18			$ 3,185 18	1 16%
Bonus				$ -	0 00%
Taxes (Real Estate)	$ 2,200 00			$ 2,200 00	0 80%
Permits/Lisence	$ 2,236 44			$ 2,236 44	0 82%
Principal's Salaries - Indirect				$ -	0 00%
General & Administrative Salaries	$ 174,641 53		$ 274,368 61	$ 449,010 14	63 65%
Overtime			$ 2,032 00	$ 2,032 00	0 00%
Comunication	$ 5,588 46			$ 5,588 46	2 04%
Electric & Water	$ 2,236 00			$ 2,236 00	0 81%
Maintainance	$ 1,539 20			$ 1,539 20	0 56%
Office Equip and Furniture Lease	$ 3,888 00			$ 3,888 00	1 42%
Publication/Subs /Conference	$ 7,682 80			$ 7,682 80	2 80%
Education & Training	$ 884 78			$ 884 78	0 32%
Business Development	$ 159 92			$ 159 92	0 06%
Entertainment & Promotion		$ 1,032 13		$ 1,032 13	0 00%
Interest		$ 12,170 70		$ 12,170 70	0 00%
Professional Fees	$ 950 00			$ 950 00	0 35%
Christmas Expenses	$ 199 75			$ 199 75	0 07%
Subconsultant	$ 250 00		$ 408,760 41	$ 409,010 41	0 09%
Lodging and Meals				$ -	0 00%
Client Administrative Expenses	$ 3,408 00			$ 3,408 00	1 24%
Miscellaneous				$ -	0 00%
Donations		$ 1,735 00		$ 1,735 00	0 00%
Finance Charges		$ 6,737 63		$ 6,737 63	0 00%
Total	$ 336,735 67	$ 21,675 46	$ 687,715 19	$ 1,046,126 32	122 73%

Direct Technical Labor	
Salaries - Employees	$ 274,368 61
Principal's Salaries - Direct	$ -
Total	$ 274,368 61

Overhead Burden $\frac{336,735\ 67}{274,368\ 61} = 122\ 73\%$

Overhead-accrual allow unallow 2008-6-29-09.xls Overhead 2008

		% Direct Labor Field	
A	*Direct Labor*		100%
B	*Department Overhead*		
	Fringe Costs	46%	
	Officer's Salary	3%	
	Indirect Salary	37%	
	Insurance	8%	
	Workmen's Comp. Ins	0%	
	Travel & Entertainment	4%	
	Rent	5%	
	Office Supplies	2%	
	Depreciation	0%	
	Telephone & Utilities	2%	
	Bank Charges	0%	
	Professional Fees	2%	
	Bid & Proposal Costs	0%	
	Dues & Publications	0%	
	Auto Expense	2%	
	Equipment Rental	1%	
	Taxes	0%	
	Recruitment	0%	
	Printing & Xerox	0%	
	Repairs & Maintenance	0%	
	Seminars & Education	1%	
	Security	0%	
	Postage	0%	
C	*Total Departmental Overhead*	111%	
D	*Profit*	10%	
	Total	2.32	

			% Direct Labor
			Office
A	*Direct Labor*		100%
B	*Department Overhead*		
	Fringe Costs	46%	
	Officer's Salary	3%	
	Indirect Salary	37%	
	Insurance	8%	
	Workmen's Comp. Ins	0%	
	Travel & Entertainment	4%	
	Rent	20%	
	Office Supplies	8%	
	Depreciation	0%	
	Telephone & Utilities	2%	
	Bank Charges	0%	
	Professional Fees	2%	
	Bid & Proposal Costs	0%	
	Dues & Publications	0%	
	Auto Expense	3%	
	Equipment Rental	1%	
	Taxes	0%	
	Recruitment	0%	
	Printing & Xerox	0%	
	Repairs & Maintenance	0%	
	Seminars & Education	1%	
	Security	0%	
	Postage	0%	
C	*Total Departmental Overhead*	135%	
D	*Profit*	10%	
	Total	2.60	

KEVILLE ENTERPRISES, INC.
SCHEDULE OF DIRECT LABOR AND INDIRECT OVERHEAD COSTS
YEAR ENDED DECEMBER 31, 2008

DESCRIPTION	FAR SECTION REFER. FOR UNALLOWABLE COSTS	TOTAL COSTS	UNALLOW-ABLE COSTS	ALLOWABLE COSTS	ALLOCA-TION %	FIELD COSTS	ALLOWABLE COSTS ALLOCATED TO HOME OFFICE
Direct Labor		$7,502,444		$7,502,444		$6,265,935	$1,236,509
FRINGE BENEFITS							
Payroll Taxes		$916,189	-	$916,189	83.52%	$765,188	$151,001
Group Insurance		878,225	-	878,225	83.52%	733,481	144,744
Workmen's Comp.		43,819	-	43,819	83.52%	36,597	7,222
GENERAL OVERHEAD							
Indirect Labor		2,890,830	-	2,890,830	83.52%	2,414,380	476,450
Vacation pay		480,078	-	480,078	83.52%	400,954	79,124
Holiday pay		352,570	-	352,570	83.52%	294,461	58,109
Personal time		41,084	-	41,084	83.52%	34,313	6,771
Sick time		120,762	-	120,762	83.52%	100,859	19,903
Profit Sharing/MPP		1,000,000	-	1,000,000	83.52%	835,186	164,814
Rent	31.205.36(b)(3)	208,314	(23,971)	184,343	55.01%	101,404	82,939
Insurance	31.205-6(m)(2)	324,000	(1,613)	322,387	83.52%	269,253	53,134
Insurance-Officer Life	31.205-19(vi)	1,482	(1,482)	0	83.52%	0	0
Office Supplies		56,494	-	56,494	55.01%	31,076	25,418
Computer Supplies		5,879	-	5,879	55.01%	3,234	2,645
Utilities		19,468	-	19,468	55.01%	10,709	8,759
Printing Reproduction		29,854		29,854	55.01%	16,422	13,432
Telephone		84,822	-	84,822	55.01%	46,659	38,163
Postage		24,492	-	24,492	55.01%	13,473	11,019
Entertainment	31.205-14	51,979	(51,979)	0	83.52%	0	0
Travel	31.205-14	156,378	(4,853)	151,525	55.01%	83,351	68,174
Advertising	31.205-1(f)(1)	21,882	(13,076)	8,806	83.52%	7,355	1,451
Auto expense	31.205-6(m)(2)	53,200	(4,792)	48,408	55.01%	26,628	21,780
Bad Debts	31.205-3	26,972	(26,972)	0	83.52%	0	0
Bank Charges	31.205-20	40	(40)	0	83.52%	0	0
Dues & Subscriptions		36,796	(6,117)	30,679	83.52%	25,623	5,056
Education & Seminars		90,705	(3,400)	87,305	83.52%	72,916	14,389
Contributions	31.205-8	33,540	(33,540)	0	83.52%	0	0
Registration Fees		7,607	-	7,607	83.52%	6,353	1,254
Relocation costs		17,619	-	17,619	83.52%	14,715	2,904
Professional Fees		67,820	-	67,820	83.52%	56,642	11,178
Taxes- State		81,742	-	81,742	83.52%	68,270	13,472
Taxes- other		4,930	-	4,930	55.01%	2,712	2,218
Depreciation	31.205-6(m)(2)	28,139	(1,071)	27,068	55.01%	14,890	12,178
Interest expense	31.205-20	15,915	(15,915)	0	83.52%	0	0
Repairs & maint.		29,300	-	29,300	55.01%	16,117	13,183
Security Expense		2,121	-	2,121	55.01%	1,167	954
Fines	31.205-15	56,188	(56,188)	0	83.52%	0	0
Employee Relations	31.205-13(b)	18,639	(2,486)	16,153	83.52%	13,491	2,662
TOTAL OVERHEAD		$8,279,874	(247,495)	$8,032,379		$6,517,879	$1,514,500
Allowable OverHead Rate						104.02%	122.48%
Facilities Capital Cost of Money				6,356			6,356
Percent of Direct Labor				0.085%			0.514%

Envision Consultants, Ltd.
Overhead Schedule
January 2008 through December 2008

Account #	Description	Financial Statement Expense	Unallowable Expense	FAR Ref	Total Proposed	Home Office Costs	Field Office Costs
5-6000	Direct Labor	$751,981			$751,981	$345,774	$406,207
6-1005	Subcontractor	$55,000	-$55,000	(1)	$0	$0	$0
Total Direct Labor		**$806,981**			**$751,981**	**$345,774**	**$406,207**
Fringe Benefits							
6-0010	Vac/Sick/Holiday	$109,624			$109,624	$60,110	$49,514
6-5120	Payroll Taxes	$88,988			$88,988	$45,617	$43,371
6-5200	Group Insurance	$99,541			$99,541	$53,469	$46,072
6-0000	Seminars/Education	$4,120			$4,120	$2,821	$1,299
Total Fringe Benefits		**$302,273**			**$302,273**	**$162,017**	**$140,256**
General Overhead							
6-5110	Non-Project Labor	$267,995			$267,995	$131,318	$136,677
6-1072	Professional Fees	$33,871			$33,871	$17,613	$16,258
6-1650	Contributions	$11,402	-$11,402	(2)	$0	$0	$0
6-1050	Postage	$2,313			$2,313	$2,313	$0
6-1055	Delivery Expense	$3,251			$3,251	$1,691	$1,560
6-1060	Office Supplies	$25,191			$25,191	$13,099	$12,092
6-1092	Computer/Printer	$3,910			$3,910	$2,033	$1,877
6-1065	Reproduction Costs	$9,243			$9,243	$4,806	$4,437
6-1070	Dues & Subscriptions	$265			$265	$138	$127
6-1016	Professional Seminars	$44,689			$44,689	$23,238	$21,451
6-1015	Professional Memberships	$6,272			$6,272	$3,261	$3,011
6-1030	Depreciation	$38,970			$38,970	$20,264	$18,706
5-4020	Software Education Manuals	$0			$0	$0	$0
6-1915	Taxes/Other Payroll Expenses	$2,202			$2,202	$1,145	$1,057
6-1086	Telephone	$18,585			$18,585	$9,664	$8,921
6-5172	Retirement	$24,192			$24,192	$12,580	$11,612
6-1110	Advertising	$38,807	-$38,807	(3)	$0	$0	$0
6-1105	Marketing	$1,453	-$1,453	(4)	$0	$0	$0
6-2000	Automobile	$76,583	-$22,406	(5)	$54,177	$28,172	$26,005
6-2100	Meals/Travel	$29,638	-$20,156	(5)	$9,482	$4,931	$4,551
6-2020	Office Repairs & Maintenance	$1,928			$1,928	$1,928	$0
6-4060	Utilities	$1,627			$1,627	$1,627	$0
6-4010	Office Costs (Rent)	$20,000			$20,000	$20,000	$0
6-6110	General Liability/Auto Insurance	$54,579			$54,579	$28,381	$26,198
5-4005	Software Certification	$29,493	-$29,493		$0	$0	$0
9-1020	Bad Debt	$10,325	-$10,325	(6)	$0	$0	$0
6-3015	Interest Expense	$780	-$780	(7)	$0	$0	$0
Total General Overhead		**$757,564**	**-$189,822**		**$622,742**	**$328,202**	**$294,539**
Total Indirect Costs		**$1,059,837**			**$925,015**	**$490,219**	**$434,795**
Percent of Direct Labor		131 33%			123 01%	141 77%	107 04%
Total Operating Expenses							

FAR Footnotes
(1) 31 202 - Direct Costs - Subcontractor Labor "Contract or Purchased Labor"
(2) 31 2058 - Contributions or Donations except as provided in 31 205 (1) (e) (3)
(3) 31 205 38 - Public Relations & Advertising Costs "Selling Costs"
(4) 31 20514 - Entertainment Costs
(5) 31 205 46 - Travel Expenses
(6) 31 20 3 Bad Debt
(7) 31 205 20 - Interest and Other Financial Costs

INTERACTIVE ELEMENTS, INC.
STATEMENT OF DIRECT LABOR COSTS AND GENERAL AND ADMINISTRATIVE EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 2008

	Total	Home	Field	Home	Field	Adjustment	Accepted Field
General and Administrative Expenses:							
Payroll	$ 1,947,719	39.99 %	60.01 %	$ 778,987	$ 1,168,732	$ -	$ 1,168,732
Payroll taxes	338,590	39.99	60.01	135,419	203,171	-	203,171
Employee benefits	404,803	39.99	60.01	161,900	242,903	-	242,903
Insurance	19,558	39.99	60.01	7,822	11,736	-	11,736
Telephone	36,109	62.42	37.58	22,538	13,571	-	13,571
Office and miscellaneous	72,035	62.42	37.58	44,962	27,073	-	27,073
Computers	30,091	62.42	37.58	18,782	11,309	-	11,309
Rent	395,137	62.42	37.58	246,632	148,505	-	148,505
Professional fees	46,556	39.99	60.01	18,620	27,936	-	27,936
Auto and local travel	76,106	39.99	60.01	30,438	45,668	-	45,668
Dues and subscriptions	19,788	39.99	60.01	7,914	11,874	-	11,874
Meetings and professional development	77,586	39.99	60.01	31,030	46,556	-	46,556
Travel and lodging	99,796	39.99	60.01	39,913	59,883	-	59,883
Travel subsistence	30,077	39.99	60.01	12,029	18,048	-	18,048
Business meals	74,423	39.99	60.01	29,765	44,658	-	44,658
Indirect outside services	133,358	39.99	60.01	53,336	80,022	-	80,022
Shipping	13,958	39.99	60.01	5,582	8,376	-	8,376
Printing and stationery	15,721	39.99	60.01	6,288	9,433	-	9,433
Licenses, permits and bank charges	4,104	39.99	60.01	1,641	2,463		2,463
Bid and proposal costs	32,335	39.99	60.01	12,932	19,403	-	19,403
Repairs and maintenance home	13,954	62.42	37.58	8,710	5,244	-	5,244
Equipment rental	7,615	62.42	37.58	4,753	2,862	-	2,862
Depreciation	23,207	62.42	37.58	14,485	8,722	-	8,722
Industry affairs	43,554	39.99	60.01	17,419	26,135	-	26,135
Total	$ 3,956,180			$ 1,711,897	$ 2,244,283	$ -	$ 2,244,283
Direct labor costs	$ 2,905,370			$ 1,161,998	$ 1,743,372		$ 1,743,372
OVERHEAD RATE	1.3617 Composite			1.4732 Home	1.2873 Field		1.2873 Adj. Field

See independent auditors' report

Bonamassa, Maietta & Cartelli, LLP
Certified Public Accountants

Firm Qualifications

Firm Qualifications and Experience

Team Introduction

With increase in regional transit ridership, PATH is faced with a need to continue evaluations of service scheduling and capital projects to meet future capacity demands. The Port Authority's PATH Capital Program will provide a number of improvements and need a team of expert planners, project managers, and support throughout the duration of this contract to aid in identifying potential challenges to its efficient delivery, generate a comprehensive schedule for delivery of Program elements, and defining procedures and resources needed to complete the tasks. Trust, organizational cohesiveness, and flexibility are must factors in the selection of your team. The **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** team not only exceeds all of the qualifications indicated in your RFP, but also brings a proven history of partnering with clients as their Project Manager to deliver complex, large-scale projects. Our Team is dedicating to the Port Authority our "A Team" resources and fully commits our key staff to your Program.

SYSTRA Overview

Since our founding in 1985, SYSTRA Engineering has successfully led the planning, design, and construction of many rail infrastructure and facilities projects in the region, including a substantial body of projects involving shops and yards, as well as signal and communications systems. For more than a decade, SYSTRA has specialized in working on these "as-needed" assignments for repeat clients, including the Port Authority of NY & NJ, Amtrak, New Jersey Transit, Metro-North, Long Island Railroad, and the Southeastern Pennsylvania Transportation Authority.

Program Management

SYSTRA understands that the success of our work not only depends upon providing excellence in engineering services, but also work that is well managed. SYSTRA provides expertise to program management teams that assist rail and transit agencies manage large, multi-discipline projects, delivering them on-time and within budget. Our program managers negotiate, process, and administrate change orders and payment administration, and oversee and manage the design process to ensure that the proposed design meets the owner's requirements. SYSTRA's experts also review the details, set objectives for the team, plan and prioritize assignments, and identify and resolve problems.

Planning

SYSTRA's planning capabilities include a wide range of public involvement and financial analysis expertise. Keeping people informed and inviting their participation in the decision-making process is often the key to building consensus and gaining acceptance of projects, especially when it comes to high-profile public works projects. SYSTRA has experience in developing the financial components that define a project for a variety of project types and modes.

Construction Management

SYSTRA Consulting offers extensive capabilities in construction management ranging from major facility construction and rehabilitation, to new start rail lines and system modernizations. SYSTRA engineers and inspectors are familiar with the specifications and operation of equipment for rail and transit maintenance facilities, all types of track construction (conventional, concrete, direct fixation), signaling, traction power and communication systems, giving us unique qualifications in the inspection, testing and equipment start-up requirements of construction management. Our comprehensive construction management services include: resident engineering, construction inspection, change order processing, constructability review, shop drawing review, project progress reporting, force account coordination, field testing, data management, partnering, and project closeout.

Operations Analysis

Our operations analysts perform a wide range of operational feasibility, capacity, travel time improvement, and passenger flow analyses using our proprietary RAILSIM® Simulation Software Suite. RAILSIM's unique capabilities in passenger modeling, delay analysis, fleet requirements and operating sensitivity to randomized operations make it an ideal tool for ranking and evaluating numerous alternatives.

Hill International, Inc. Overview

Hill International, Inc. is a leading international construction consulting firm that provides program and project management, construction management, cost engineering and estimating, quality assurance, inspection, scheduling, claims analysis, and innovative dispute resolution services to clients involved in major construction projects worldwide. Hill has the expertise and experience to manage major projects from concept to successful completion. **We have successfully managed more than 5,000 projects with a total construction value over $250 billion, and we are the largest pure construction management firm in the country.** Hill is a publicly-traded company listed on the New York Stock Exchange.Hill is also an international leader in construction claims management, considered to be **the largest construction claims firm in the world.** Founded in 1976 as a multi-disciplined management consulting firm that helps construction participants minimize risks, Hill has developed a reputation for our innovative approaches to preventing and resolving construction schedule and cost overruns. We offer public and private clients a full spectrum of construction-related services that enable them to complete construction on time and within budget while minimizing claims and other problems. Hill has helped our clients resolve more than 25,000 claims and disputes valued at more than $100 billion.

For over a quarter century, clients worldwide have selected Hill International as consultants on their most complex projects. Each client has unique needs and goals, yet they choose Hill because they need experts who can prevent problems, minimize risks and eliminate surprises. Our mission: to meeting our clients' diverse needs in handling project risk and exceed their highest expectations.

Hill International employs 2,300 professionals and support personnel in 80 offices in 35 countries worldwide. Our staff includes architects, engineers in all construction and building-related disciplines, planners, schedulers, estimators, value engineering specialists, construction managers, resident engineers, construction inspectors and a full range of technical and support staff to represent owners.

Project Management

Hill has developed its project management approach based on extensive Project Management assignments and claims experience, which gives us a unique and in-depth understanding of what, can go wrong on a project. We use this knowledge to identify potential trouble spots on a project before they develop into problems and recommend or initiate preventive action through strategic planning and controls. We vigilantly watch over all aspects of a project, from design review and long lead items through schedule and budget updates and inspection during construction. As Project/Construction Manager or Owner's Representatives, Hill has managed all phases of the construction process from pre-design through completion, including cost/budget controls, scheduling, estimating, expediting, contract administration, inspections, and control of contractors and suppliers.

Additional services include: Program Management, Construction Management, Project Management Oversight, Staff Augmentation, Troubled Project Turnaround, Project Controls, Project Labor Agreements, Construction Dispute Resolution Services, Claims Consulting, Cost Estimating, and Scheduling

The combined resources of the Hill staff allows us to provide such services as project management, project controls, engineering, design, construction management, and claims management to major commercial and industrial, federal, state, and local government clients. Hill provides a level of expertise not available elsewhere, and can offer clients the professional consulting services necessary to successfully manage all aspects of capital projects, from inception through close-out and occupancy.

Gannett Fleming Overview

Gannett Fleming Transit & Rail Systems (GFT&RS) is a division of Gannett Fleming, Inc. GFT&RS division headquarters is located in Valley Forge, PA, with our parent company's permanently staffed offices in more than 45 cities throughout the United States, including Boston, Philadelphia, New York, Newark, Los Angeles, Jacksonville, and Phoenix. Gannett Fleming's dedicated staff of over 2,000 employees includes more than 475 registered professionals involved in all aspects of transportation engineering.

Gannett Fleming is a multidiscipline consulting engineering firm that has been providing services to the transit industry since 1915. Our Transit & Rail Systems Division is the national leader in the specialized fields of design of electrified railroad signal, communications and overhead catenary systems. The Gannett Fleming Transit & Rail Systems (GFT&RS) division of Gannett Fleming continues to provide engineering and management services to the rail transportation industry

including, performance and detailed final designs; system studies; construction management and inspection for new system starts, as well as existing system expansion and upgrades for, commuter railroads, freight railroads, and light and heavy rail transit systems throughout the country

Gannett Fleming has earned the reputation of being one of the most respected transit engineering firms in the industry. Many of the professional members of our firm were previously employed by transit authorities. Our firm has provided its expertise on numerous projects for clients such as Amtrak, the Long Island Railroad, Metro-North Railroad (Metro-North), Massachusetts Bay Transportation Authority (MBTA), the Southeastern Pennsylvania Transportation Authority (SEPTA), Pittsburgh's Port Authority of Allegheny County, the San Francisco's MUNI, the Delaware River Port Authority's PATCO Line, Conrail, and the Norfolk Southern Railroad. Our present volume of work places us among the top consultants to the transportation industry. GFT&RS, and our parent company, offers a complete range of engineering and consulting services that are tailored to the demands of the commuter railroad and transit industries. We offer complete architectural, civil, environmental, geotechnical, planning, design, and construction services for various transit and railroad projects including: Signals and Train Control; Communications; Interlocking Design and Application Logic Programming; Highway Crossing Study, Design and Layout; Automatic Train Control Systems; Communication Based Train Control Systems; Power Distribution and Electrification including Electrification Studies, Load Flow Analysis; Operations Analysis, Track and Platform Capacity Analysis; Industrial Sidings and Spurs; Administration Buildings; Maintenance-of-Way Buildings; Operations Control Buildings; Lay-Up/Storage Facilities; Maintenance Shops; Locomotive/Car Wash Facilities; Locomotive Fueling Service Facilities; Trackwork; Design & Inspection; Bridges/Structures; Tunnels; Intermodal Facilities; and Automotive Facilities.

Established Relationship with the Port Authority

SYSTRA, Hill, and Gannett Fleming not only bring an established relationship and streamlined procedures from working together on past projects in the New York/New Jersey area, but each firm also brings a successful, established relationship with the Port Authority. The SHG Team's current and previous experience working together, working relationship with the Authority, similar experience on large transit capital programs, and working knowledge of the Port Authority guidelines and procedures will allow us to immediately provide the necessary planning, project management, and related services upon notice to proceed with no learning curve.

Project Profiles

On the following pages we have provided in-depth project profiles that best exemplify our expertise and qualifications to meet the comprehensive challenges of the Port Authority's Planning, Project Management, and Related Services On-Call contract. These projects showcase the SHG Team's firm and staff experience within the past five years with managing rail capital programs which include multiple sub-projects valued at more than $50-million.

World Trade Center PATH Reconstruction, Phase II Downtown Restoration Program, *New York, NY*

The Downtown Restoration Program involves redevelopment of the facilities at the World Trade Center site. Hill has been retained by the Authority to provide program management services for this complex and highly visible capital program. Our services include scheduling, estimating, cost modeling, budgeting, and cost controls for each of the capital projects. Hill is providing, as-needed, design reviews, value engineering, and constructability studies. Hill developed a comprehensive cost model that incorporates all capital costs for the programs. The model uses a WBS system that allows queries of multiple elements to generate task-specific reports, allowing management to make informed decisions as the programs have developed from conceptual design through the construction phases. Hill also worked on the development of a tailored Integrated Master Schedule (IMS) for the program. The IMS provides schedule information for each of the various projects going on at the World Trade Center site.

Client:
Port Authority of NY & NJ

Total Project Value:
$12,000,000,000

Completion Date:
2012

Contact:
PANYNJ
Carla Bonacci
212.435.5532

World Trade Center PATH Reconstruction, *New York, NY*

Hill worked for the Port Authority since early 2002 to provide program management and technical support for the restoration of PATH train service to Lower Manhattan in the wake of the World Trade Center Disaster. To enable this restoration, two Hudson River Tunnels and the Exchange Place Station were rehabilitated and restored, and a temporary PATH WTC Station was constructed. Hill played a significant role in the successful completion of these integral projects. With Hill's help, the Port Authority's goal to restore downtown service as quickly as possible was achieved—approximately one month ahead of schedule.

Phase I: Temporary Station

During Phase I of the Temporary Stations, Hill provided project management support of the program and provided cost estimating and related analyses services to support the FEMA/Insurance reimbursement process pertaining to the losses from the WTC disaster.

Client:
Port Authority of NY & NJ

Total Project Value:
$544,000,000

Completion Date:
2003

Contact:
PANYNJ
Carla Bonacci
212.435.5532

PATH Train Control & Communications Control Center, *Jersey City, NJ*

SYSTRA provided project management, facility requirements, and systems engineering services for a new integrated Security Operations Center and Operations Control Center for PATH. The program developed two 3rd party contracts: one for construction of a new control center facility, and another for acquisition of a systems integrator to implement the myriad of command, control, and communications systems, as well as enterprise system services in the control center. The functionality of the new control center was required to minimally provide that of PATH's existing control center with defined enhancements provided. A large quantity and variety of computer-based command and control systems and communications systems were involved. SYSTRA developed systems requirements for a new CTC system, integrated voice system, and multi-function integration system, and provided systems integration and interface requirements for modifying, expanding, and interfacing into SONET, SCADA, CCTV (including computer analytics), VHF, and 800 MHz radio, telephone, customer information, customer help point systems, fare collection, Access Control Intrusion Detection systems, and PANYNJ enterprise system services.

Client:
Port Authority of NY & NJ

Total Project Value:
$85,000,000

Completion Date:
2010

Contact:
PANYNJ
Martin Sklaver
201.595.5788

PATH Railcar Fleet Development and Train Control Replacement, *New York, NY*

SYSTRA was deeply involved in the development of a new railcar fleet and train control system replacement. SYSTRA provided PATH with the industry-leading network simulation modeling tool, RAILSIM®. By fully describing the PATH system in the computer model, SYSTRA was able to optimize the railcar characteristics such as acceleration rates and maximum design speed as well as the parameters of the new signal system. The new signal system evaluation included a direct comparison between fixed block digitally encoded audio frequency track circuits and communications based train control. Every detail of the PATH system was modeled, including the existing train control systems, railcar characteristics, passenger flow, alignment, the operators of the trains, and new train control technologies. One of the keys to the success of the railcar and ATC program was systems integration. System integration is the management of interfaces. For the railcar and train control program, this involved an extraordinary effort in control. SYSTRA used their Management Interface software to track, assign, and implement solutions to the design process and were involved with the development of the train control specification and conformity review of the interface areas for both the railcar and train control specifications.

Client:
Port Authority of NY & NJ

Total Project Value:
$1,500,000

Completion Date:
2005

Contact:
PANYNJ
Dhiren K. Chakraborty
201.216.6615

New Jersey Transit CM/GEC Services, *Newark, NJ*

Hill International provided On-Call Construction Management Services on a task order basis for various New Jersey Transit (NJT) projects. Hill successfully completed four task order contracts on a variety of NJT projects. The projects included the renovation of existing and the construction of new passenger stations and systems. As NJT's General Engineering Consultant (GEC), Hill's range of services included construction management, design and constructability reviews, cost estimating, construction administration, scheduling, site inspection, shop drawing review, change order, and claims assistance on the following: Newark City Subway Broad Street Extension MOS-1; Newark City Subway Track Rehabilitation; Claims Avoidance Support Services for the Hudson Bergen Light Rail Transit System (HBLRTS); Newark City Subway (NCS) Signal Modernization; Newark City Subway (NCS) Overhead Contact System (OCS); Branchbrook Park Station; Newark City Subway (NCS) Penn Station Traction Power Negative Return; Assessment of Potential Construction Claims, Southern New Jersey Light Rail Transit System (SNJLRTS); Bergen Tunnel Reconstruction; Hackensack River Bridge Fender Repair; Modernization of Newark Penn Station; and Rehabilitation of the NJCL Woodbridge Train Station.

Client:
New Jersey Transit

Total Project Value:
$150,000,000

Completion Date:
2006

Contact:
Amtrak (formerly with NJTransit)
James Savarese
[redacted]

New Haven Rail Maintenance Facility, *New Haven, CT*

Hill was retained in 2008 by the Office of Policy & Management to review and analyze the scope, cost, and budget established by the Connecticut Department of Transportation for the New Haven Rail Maintenance Facility Expansion Project.

Specific major goals and objectives of the program were to increase the ability to store and maintain increased fleet of multiple unit (MU) cars operated by Metro North and ConnDOT, provide upgraded facilities for car inspections and servicing, upgrade the facilities for ADA access standards, and provide upgrades to improve reliability, quality, and efficiency of various commuter rail operations. Planned construction included the New MU car storage and yard loop track60 Hz AC catenary system for the yard, sitework and utility upgrades, a new transportation building, a new cart garage and car cleaner building, extensive demolition of various existing facilities and buildings, and site remediation.

Client:
State of Connecticut Office of Policy and Management

Total Project Value:
$850,000,000

Completion Date:
2009

Contact:
Metro-North Railroad
Michael Sickenius
[redacted]

7 Subway Line Extension, *New York, NY*

The No. 7 Subway Line Extension project will provide transit access to the West Side of Manhattan, including the Jacob Javits Convention Center, by extending the No. 7 Line westward from Times Square under West 41st Street and southward along 11th Avenue to the southerly terminus at West 25th Street. The planned extension provides 9,432 feet of tunnel to accommodate a two-track railroad with two lay-up tracks for storage of three trains each. The extension also provides for two new stations: an intermediate station at West 41st Street and 10th Avenue and a two-track terminal station on 11th Avenue at West 34th Street. The No.7 Subway Line Extension will transform the Hudson Yards into vibrant 24-hour neighborhood containing a mix of commercial, residential, retail, and recreational uses while enhancing the vitality of New York City as a whole. The joint venture will be responsible for providing construction management services during all tunneling work and during construction of all facilities and infrastructure including track, rail systems and stations, as well as project controls services throughout the duration of the project, which is anticipated to be completed by November 2013.

Client:
MTA

Total Project Value:
$2,100,000,000

Completion Date:
2013

Contact:
MTA
Paul Matthews, PE
[redacted]

Track and Civil Services for the Arch Street Maintenance Facility, *New York, NY*

The Arch Street Yard and Shop is a support facility for the proposed Sunnyside Mid-Day Storage Yard for Long Island Railroad Trains serving Grand Central Station. The Mid-Day Storage Facility is part of the New York MTA's East Side Access Project. Gannett Fleming was responsible for overall management of the Shop and Yard construction package (Package 25) for the East Side Access System Engineering Consultant. Gannett Fleming was directly responsible for the Track and Civil/Site design of facility. The yard and shop was bid as a design-build project. Gannett Fleming prepared the plan sheet package, detailed design-build construction specifications, and a detailed design-build construction estimate. The proposed shop area is in a flood plain in the middle of Queens Borough, at the east portal of the tunnels connection Penn Station in Manhattan with Long Island. The design required coordination with Amtrak, the Long Island Rail Road, the New York and Atlantic Railway, and the New York City DEP. The design of the yard had to be compatible with the proposed designs for the future Mid-Day Storage Yard, Amtrak Harold Interlocking, and the lead tracks from the 5 proposed new tunnels under the East River being designed by the Tunnel Engineering Consultants.

Client:
Long Island Rail Road

Total Project Value:
$105,000,000

Completion Date:
2005

Contact:
LIRR
Kenneth Lettow
[redacted]

Metro East Light Rail Vehicle Maintenance and Operations Facility, *San Francisco, CA*

Gannett Fleming, the lead in a joint venture with seven subconsultants, provided engineering services for the planning, design, and construction support of this light rail vehicle (LRV) maintenance and operations facility. The Metro East maintenance shop and storage yard was required to support the MUNI 3rd Street light rail system extension as well as provide additional LRV maintenance capability for MUNI's existing LRV and trolley system. The fully electrified yard will provide storage for 80 LRVs with provisions for future expansion for storage of 100 LRVs, as well as an automatic train control (ATC) test track. The main shop provides facilities for daily vehicle servicing (inspection, fare extraction, sanding, interior cleaning, and exterior washing), preventive maintenance and running repair (trestle tracks over depressed floors with roof access catwalks), wheel truing, heavy repair (LRV hoisting, detrucking, and component repair), central stores, and maintenance and transportation worker support facilities. Project planning and design also included a paint and body shop. This future facility will provide two downdraft booths for prep and painting as well as three tracks for body work and frame straightening.

Client:
San Francisco Municipal Railway (MUNI)/City and County of San Francisco

Total Project Value:
$120,000,000

Completion Date:
2005

Contact:
MUNI
John Fong
[redacted]

East Side Access, *New York, NY*

This $7-billion project represents the largest construction project undertaken by the MTA and is an example of SYSTRA's successful program management experience and collaboration between SYSTRA and Gannett Fleming. Part of the program management team, SYSTRA also has provided a range of support including rail operations and systems integration, design, and construction management. Also, SYSTRA is responsible for the Operational Readiness Program for ESA which encompasses elements such as the development and implementation of an asset management plan, testing and commissioning plan, master training schedule, and revenue service operating plan. Gannett Fleming's role involves a state-of-the-art microprocessor based interlocking system and cab signal designs. GF is also responsible for the communication based train control (CBTC) system where required between interlockings.

Client:
MTA Capital Construction

Total Project Value:
$7 Billion (Inflated Dollars)

Completion Date:
Ongoing

Contact:
MTA
Mr. William Stead
[redacted]

Staff's Qualifications

"NJ Transit has known Gannett Fleming Transit's Rail System for more than 20 years…they have shown their expertise on the railroad catenary and substation system design and rehabilitation work, they are knowledgeable and cooperative, and have always been performing work well for each of our assignments."

S. Conte
Chief Electrical Engineer
NJ Transit

Staff's Qualifications and Experience

The **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** team is accustomed to providing services for on-call contracts. One of the keys to the issuance of final assignments by the owner will be the proposed staffing plan submitted by SHG as part of our assignment response. We will spell out in detail our key personnel, schedule, and other requirements to successfully carry out each assignment. We know firsthand that a rapid and effective response, including the appropriate staffing and schedule, is critical. Carefully matching personnel assignments to performance requirements for every task, and maintaining our pool of in-house talent, will enable us to yield the required resources at the appropriate times, resulting in efficient, cost-effective, and highly productive services.

SYSTRA, Hill, and Gannett Fleming have each successfully managed and performed on-call services contracts for numerous clients. Our organizational structures and procedures are based on long and successful experience on this type of contract, including thousands of task orders for similar clients over the last several years. SHG understands the balance of staffing support resources and the organization required to manage and perform these contracts. The SHG team has the background, skills, and experience to carry out this project. Three key elements required for successful performance of on-call services are:

- The proven ability to successfully manage on-call contracts, to staff assignments with the appropriate personnel in a timely fashion, and to provide clients with high-quality work.
- The proven ability to provide technically competent and experienced architects, engineers, technicians, and project management personnel to perform the specific tasks at hand and to work as a team with the owner.
- The practical and usable experience on related projects to anticipate and provide solutions to construction operations, management, and engineering problems that threaten to delay construction or otherwise negatively impact the project.

In response to each proposed assignment, SHG will develop a work plan, schedule, and budget and will submit to the Port Authority a proposal outlining a specific plan that includes selection and assignment of personnel with relevant expertise. As the resumes provided at the end of this Section indicate, our proposed staff has extensive experience in new construction, additions, and renovations. Our staff also has considerable experience working on Port Authority projects throughout the Metropolitan area.

Mr. Robert Spero, our Project Manager, a lifelong railroader, his most recent assignment East Side Access, where he faced and solved the same type of problems PATH is facing with their 2010 -2014 Capital Program, including scheduling, track usage, facility forces, integrating contractor task and facility force tasks, equipment usage, multi-project and multi-construction contract coordination.

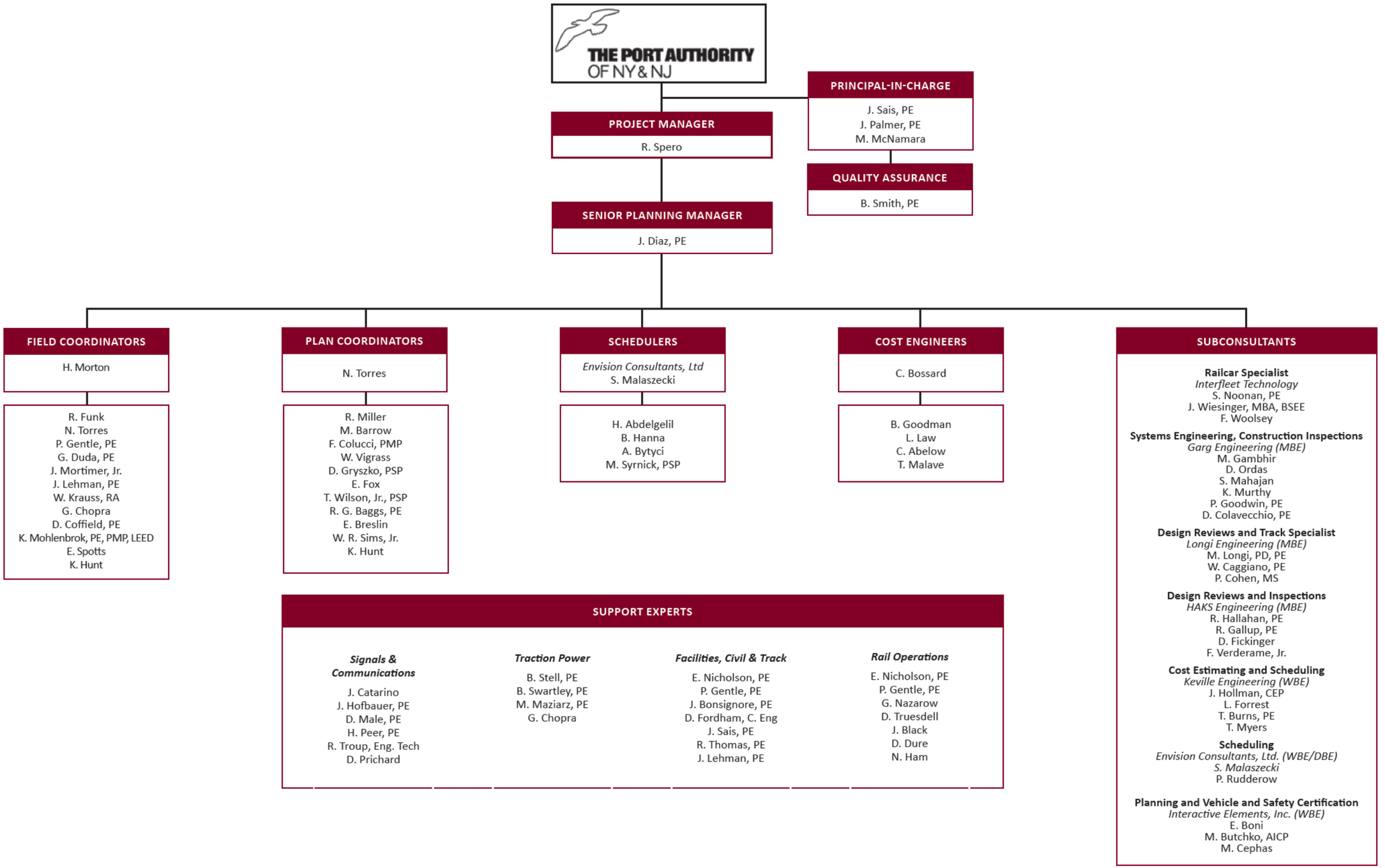
Mr. Jose Diaz, our Senior Planning Manager, has more than 30 years of professional experience, including over 25 years experience in program, project, and construction management in a wide variety of facilities of similar or greater complexity. His experience includes extensive work for the Authority (nearly full-time from 2002-2007), during which time he was awarded the Authority's "James G. Hellmuth Unit Citation" for his efforts in the World Trade Center Loss Recovery project.

Mr. Harry Morton, our Lead Field Coordinator, is a Senior Construction Inspector with 32 years of construction experience in railroad track construction, transit passenger station rehabilitation, elevated track structure rehabilitation, and railroad maintenance and shop yard construction. He is responsible for commercial, bridge, highway, and railroad and transit construction and rehabilitation projects from award through finalization. He supervises company, contractor, and public agency personnel to verify quality and adherence to contracts, plans, and specifications. Harry has obtained many construction certifications and has received OSHA's Construction Safety and Health training as well as Fall Protection Training in compliance with Title 29 CFR 1926.500.

Ms. Nellie Torres, our Lead Planning Coordinator is a seasoned manager in the transit industry, in addition to managing project for NYCT and NJ Transit she is the former Operations Controller for a National Transit Contractor where she was responsible for the coordination of all the companies projects; coordination of the company's recourses, and establishment of master schedules and project controls used in the management of these projects.

Mr. Clarence Bossard, will serve as Lead Cost Engineer for the Port Authority contract. He has over 40 years of experience in the construction industry as a construction manager, building inspector, contractor, estimator and scheduler. He has an extensive background in transit and rail projects. He has worked extensively with the Port Authority, including the reconstruction of the World Trade Center and PATH Terminals.

Mr. Boris Goodman, our Lead Cost Engineer, has more than 34 years of project management experience, including cost estimating, design and construction for a variety of multi-disciplined projects. His background includes tunnels, rail, and transit projects, including extensive experience with the Metropolitan Transportation Authority (MTA), Long Island Rail Road, Capital Program Management projects.


THE PORT AUTHORITY OF NY & NJ
PRINCIPAL-IN-CHARGE
J. Sais, PE
J. Palmer, PE
M. McNamara
QUALITY ASSURANCE
B. Smith, PE
PROJECT MANAGER
R. Spero
SENIOR PLANNING MANAGER
J. Diaz, PE
FIELD COORDINATORS
H. Morton
R. Funk
N. Torres
P. Gentle, PE
G. Duda, PE
J. Mortimer, Jr.
J. Lehman, PE
W. Krauss, RA
G. Chopra
D. Coffield, PE
K. Mohlenbrok, PE, PMP, LEED
E. Spotts
K. Hunt
PLAN COORDINATORS
N. Torres
R. Miller
M. Barrow
F. Colucci, PMP
W. Vigrass
D. Gryszko, PSP
E. Fox
T. Wilson, Jr., PSP
R. G. Baggs, PE
E. Breslin
W. R. Sims, Jr.
K. Hunt
SCHEDULERS
Envision Consultants, Ltd
S. Malaszecki
H. Abdelgelil
B. Hanna
A. Bytyci
M. Syrnick, PSP
COST ENGINEERS
C. Bossard
B. Goodman
L. Law
C. Abelow
T. Malave
SUPPORT EXPERTS
Signals & Communications
J. Catarino
J. Hofbauer, PE
D. Male, PE
H. Peer, PE
R. Troup, Eng. Tech
D. Prichard
Traction Power
B. Stell, PE
B. Swartley, PE
M. Maziarz, PE
G. Chopra
Facilities, Civil & Track
E. Nicholson, PE
P. Gentle, PE
J. Bonsignore, PE
D. Fordham, C. Eng
J. Sais, PE
R. Thomas, PE
J. Lehman, PE
Rail Operations
E. Nicholson, PE
P. Gentle, PE
G. Nazarow
D. Truesdell
J. Black
D. Dure
N. Ham
SUBCONSULTANTS
Railcar Specialist
Interfleet Technology
S. Noonan, PE
J. Wiesinger, MBA, BSEE
F. Woolsey
Systems Engineering, Construction Inspections
Garg Engineering (MBE)
M. Gambhir
D. Ordas
S. Mahajan
K. Murthy
P. Goodwin, PE
D. Colavecchio, PE
Design Reviews and Track Specialist
Longi Engineering (MBE)
M. Longi, PD, PE
W. Caggiano, PE
P. Cohen, MS
Design Reviews and Inspections
HAKS Engineering (MBE)
R. Hallahan, PE
R. Gallup, PE
D. Fickinger
F. Verderame, Jr.
Cost Estimating and Scheduling
Keville Engineering (WBE)
J. Hollman, CEP
L. Forrest
T. Burns, PE
T. Myers
Scheduling
Envision Consultants, Ltd. (WBE/DBE)
S. Malaszecki
P. Rudderow
Planning and Vehicle and Safety Certification
Interactive Elements, Inc. (WBE)
E. Boni
M. Butchko, AICP
M. Cephas

Joseph Sais, PE

Principal-in-Charge / Support Expert – Facilities, Civil and Track

Mr. Sais has more than 37 years of senior level managerial experience with the largest commuter railroad in North America and a prominent national engineering consulting firm. He is an expert in providing hands-on leadership and direction for all aspects of planning, capital construction, and maintenance for track and structures. Mr. Sais is a creative problem solver with a solid track record of major accomplishments.

PANY&NJ PATH Exchange Place Restoration and Modifications

Mr. Sais was Project Manager responsible for rail system design and construction phase services. This project included a new interlocking and track alignments for the PATH Exchange Place Station.

PANY&NJ PATH Security Improvement Contracts

Mr. Sais was Project Manager responsible for design and construction phase services for numerous security improvements to the PATH system. Due to the nature of this type of work, specific details can not be provided.

World Trade Center Temporary Station

Mr. Sais was Project Manager responsible for the design and construction phase services for the station track layout and civil site improvements. This high profile project was being fast-tracked with design and construction occurring simultaneously. The project was completed ahead of schedule

Long Island Rail Road (LIRR) Jamaica Station, Jamaica, NY

As Former Assistant Chief Engineer, Maintenance of Way, Mr. Sais was responsible for all aspects of track and structures departments, including planning, design, construction and maintenance. The maintenance of way department consisted of 800 employees with an annual operating budget of $93 million and an annual capital construction budget of $100 million. The department was under budget for each year of Mr. Sais's tenure. In addition, he reorganized the track and structures departments resulting in increased productivity and improved accountability. All projects completed under budget and ahead of schedule. The projects included station renovations, platform replacements, building replacements, bridge replacements, concrete and wood tie, switch and crossing installations.

Education:

B.S., Engineering Science, Long Island University 1975

A.A., Applied Science – Civil Technology, State University of New York 1969

Dale Carnegie – Effective Communications

ISO 9000 Lead Assessor – Quality Management International

Registrations:

Professional Engineer, New York

Employment History:

SYSTRA Consulting, Inc., 2006 – present

LIRR, 1969 – 2002

Throughout his career at LIRR, Mr. Sais has implemented panelized track construction methods to the LIRR. Additionally, he has implemented the use of new equipment for productivity and quality improvements – Switch Exchange System, Tie Laying Machine, Ballast Management System, Continuous Action Tamper, UNIMAT, and Rail Vac. He has developed track strategy, bridge strategy, and right-of-way strategy being used to develop future capital funding needs.

Mr. Sais has implemented new track geometry car, a work order system that tracks all maintenance defects and repair costs, a new bridge management system, and other cost saving designs including prefabricated station buildings, modular platforms, and prefabricated/modular bridges.

MTA Capital Construction East Side Access

Mr. Sais is Principal-In-Charge for this high profile project which will connect the LIRR to Grand Central Terminal. SYSTRA's role is program management for design, construction, testing and commissioning.

NYCEDC Reactivation of the Staten Island Railroad

Mr. Sais was Project Manager responsible for design and construction phase services for this project which involved the reactivation and expansion of the existing Staten Island Railroad, last operated in the early 1990's. This project included, four bridges, 14 track freight yard (Arlington Yard), the extension of the Travis Branch 2.0 miles, and numerous environmental and permitting issues.

LIRR, New York, NY

As Former Director, Quality Assurance, Mr. Sais developed and implemented the LIRR quality assurance program. The program included capital program management, operations, contractors, consultants, and third party vendors. He also developed and issued quality assurance reports to senior management and oversight agencies (FTA, MTA), coordinated quality assurance activities through the various MTA agencies, and was the founder and first president, Northeast Quality Consortium. Members include LIRR, MNCR, NYCT, PATH, NJT, SEPTA, and Amtrak.

LIRR, New York, NY

As Former Manager, Structural Projects/Maintenance, Mr. Sais was responsible for all structural maintenance, rehabilitation, and new construction performed by LIRR employees on the entire system. He developed and implemented all structural and preventive maintenance program and developed, implemented, and managed new construction projects performed by LIRR employees, including scheduling, budgeting, equipment usage, material procurement, allocation of forces, and labor relations. All maintenance was completed under budget and projects were completed under budget and ahead of schedule.

James W. Palmer, PE

Principal-In-Charge

Mr. Palmer will serve as Principal-in-Charge. Mr. Palmer's broad-based experience in rail transportation translates into nationally recognized, award-winning projects. He possesses a unique ability to develop solutions and transform difficult situations using strong analytical skills and control systems. Mr. Palmer's background includes the integration of design, construction, maintenance, and operations, as well as aggressive and efficient team building. His work with state transportation and planning departments, as well as top-level positions with major transportation corporations, exemplify his commitment to efficiency and results-oriented performance. Mr. Palmer's professional experience includes the following representative projects:

Port Authority of NY & NJ (PANYNJ), Downtown Restoration Program of Service, New York City, NY

The PANYNJ initiated a $3.1-billion program to restore service from North Jersey into Lower Manhattan. Destroyed by the collapse of the World Trade Center and the subsequent recovery, rebuilding the Port Authority Trans-Hudson (PATH) train service was deemed critical for economic recovery of the World Trade Center area and the Financial District from the terrorist attack and devastation that followed. The Program involved converting an underground station, Exchange Place, into a Terminal so trains could be turned back there within a year and a half, as well as the reconstruction of the train station and the two miles of connecting tunnels at the World Trade Center Station itself in two years. This $540-million program has not been designed at that time so Mr. Palmer worked with the Authority to develop a strategy to get this done. As the lead technical and constructability advisor, Mr. Palmer developed the initial design and construction packaging and staging plan that included long-lead procurements, technical approaches and sequences of construction.

Washington Metropolitan Transit Authority, General Engineering Consultant, Washington, DC

Mr. Palmer was Program Director responsible for the development of project scopes, negotiation of task and program management of the work product, and adherence to schedule and budget.

New Jersey Department of Transportation, Merger Project, Trenton, NJ

Mr. Palmer was responsible for supporting NJDOT in its negotiations with the railroads and filings before the Surface Transportation Board

Education:

B.C.E., Civil Engineering, Queens University, Ontario, Canada, 1974

Registrations:

Professional Engineer, Maryland

Professional Engineer, New Jersey

Professional Engineer, Pennsylvania

Professional Engineer, New York

Employment History:

Hill International, Inc., 2001 – present

DMJM, 1998 – 2001

Edwards and Kelcey, 1996 – 1998

Southeastern Pennsylvania Transportation Authority (SEPTA), 1988 -1996

Baker Engineers, 1986 - 1988

Southeastern Pennsylvania Transportation Authority (SEPTA), 1980 -1984

Booz, Allen & Hamilton, 1978 – 1980

National Railroad Passenger Corporation, (Amtrak), 1976 - 1978

Delaware and Hudson Railway Company, 1974 - 1976

(STB) with respect to the proposed Conrail-CSX, Norfolk Southern Merger. His role included strategy development, participation in negotiations, evaluation of the railroads' filings, and the development of the State's case before the STB.

Light Rail Transit Development, Bergen County, NJ

Mr. Palmer was responsible for the development of a business plan for the implementation of the project to initiate a light rail service on an existing freight right-of-way by special taxing districts and joint development. Mr. Palmer was responsible for developing a financing plan; overseeing the development of capital, and estimating cost estimates for the program, as well as the operating plan. In addition, he oversaw the development of alternative public/private financing approaches to the project, including economic development and innovative financing tools.

New Jersey Transit, Secaucus Transfer Project, NJ

The project was to construct a multi-modal transportation facility that tied Amtrak's Northeast Corridor, NJ Transit's North Jersey commuter rail lines, and the NJ Turnpike together with on-site economic development. In addition to performing a general review of this $450 million program, Mr. Palmer focused specifically on construction risk mitigation and contract cost reduction in response to excessively high bids for caisson work. Mr. Palmer's outreach to the contractors, and his evaluation of contract conditions, led to recommendations on further defining and opening track outage windows and modifying the types of foundation work within the project, and the program was brought back within budget.

State of Connecticut Office of Policy and Management, CT

Mr. Palmer managed the study of the Connecticut Department of Transportation (ConnDOT) with regard to their management of major construction projects. Hill was retained by the State of Connecticut to carry out forensics on an interstate highway construction project that had gone bad including an industry comparison with Connecticut Department of Transportation practices in managing and overseeing construction.

Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, PA

As general superintendent for track, Mr. Palmer managed the design, construction and maintenance of Philadelphia's track systems including a 160-mile trolley system; 60 miles of rapid transit lines; and a 240-mile commuter rail system. He was responsible for a $40-million budget and 340 employees.

Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, PA

As the Assistant General Manager of Railroad Division, Mr. Palmer was directly responsible for 1,500 employees, including 250 managers and 1,250 agreement employees represented by nine different contracts. Mr. Palmer managed a $250 million annual budget, consisting of a $175 million operating budget and a $75 million capital budget.

Michael T. McNamara, PE

Principal-In-Charge

Executive Vice President and Chief Operating Officer, Gannett Fleming Transit & Rail Systems, with extensive experience in the design, construction, and maintenance of railroads and transit systems. Specializes in train control, traction power, and communications systems for rail transportation. Projects include heavy rail, light rail and commuter rail transit, high-speed rail, and freight rail. Appeared as an expert witness on engineering aspects of various litigations involving rail accidents and has participated on value engineering teams related to rail transit service, vehicle maintenance, building facilities, and yard layout.

New Jersey Transit, Portal Bridge Capacity Enhancements, Kearny, NJ

Project Principal responsible for engineering efforts in support of an environmental impact statement and preliminary and final engineering to modify the Amtrak Northeast Corridor between Newark and New York. The modifications replace a 2-track main line and a 100-year-old swing bridge with 5 tracks and 2 new high bridges over the Hackensack River, and provide track connections to the new tunnels being built into Manhattan in another project. Approximately 29 bridges will be constructed in this environmentally sensitive area. Directed railway signal engineering, track design, catenary and electric traction improvements, and revisions to seven train and traction power control centers affected by the enhancements.

Port Authority of Allegheny County, North Shore Connector, Pittsburgh, PA

Project Principal for the final design of railway systems work for an extension of the light rail system under the Allegheny River. Three new train stations are involved. Work includes railway signaling, traction power substations, and catenary and track design.

New Jersey Transit (NJT), Expert Witness Services, River Line Claim, Newark, NJ

Expert Witness for a claim against NJT's River Line between Camden and Trenton. Developed reports on the adequacy of the signal system. Addressed vehicle interface issues, control center designs, yard implementation, mainline track circuits, and highway crossings.

Education:

B.S., Electrical Engineering, Drexel University, 1973

M.S., Systems Engineering, University of Pennsylvania, 1978

Registrations:

P.E.: New Jersey - No. [redacted] (1983)

Pennsylvania - No. [redacted] (1987)

Ohio - No. [redacted] 1987)

Massachusetts - No. [redacted] 1988)

New York - No. [redacted] (1989) Maryland - No. [redacted] (1993)

California - No. [redacted] (1994)

Connecticut - No. PEN [redacted] (1994)

Oregon - No. [redacted] (1994)

Florida - No. [redacted] 1995)

Illinois - No. [redacted] (2006)

e-RAILSAFE Badge: e-VERIFILE.COM, Inc. - No. [redacted] (2006)

Employment History:

Gannett Fleming 2003 – Present

Systra Consulting, Inc. 1993 – 2003

Stone & Webster Engineering Corporation 1989 - 1993

Ross Clarke Associates 1989

Transportation and Distribution Associates, Inc. 1984 – 1988

Urban Engineers, Inc. 1980 – 1984

Consolidated Rail Corporation

1980 - 1984

New Jersey Transit (NJT), Advanced Speed Enforcement System (ASES), Newark, NJ

Project Manager assisting NJT with the implementation of ASES on its commuter rail network. When poor reliability threatened the viability of project implementation, recommended limited implementation to demonstrate reliability prior to widespread installations. Worked with the contractor to develop and test subsystem modifications to improve reliability and performance. Defined implementation strategies that NJT used to achieve the improved safety objectives without significant reliability disadvantages. Defined specifications for subsystem interfaces that allowed components to be purchased competitively.

MTA Long Island Rail Road (LIRR) East Side Access, New York, NY

Project Principal responsible for specific signal and traction power work on a $6 billion project to bring LIRR trains into Grand Central Terminal. Relocation of a Metro-North storage facility was also included in the scope of work. The LIRR facilities include new microprocessor interlocking and cabs without wayside signaling. Rearrangements of Harold Interlocking, one of the largest interlockings on the LIRR, involved 13 stages and Amtrak concurrence.

Southeastern Pennsylvania Transportation Authority, Broad Street Subway Signal System Upgrade, Philadelphia, PA

Project Principal for construction management services to replace an antiquated signal system with modern microprocessor vital interlockings. The project also involves replacement of wayside apparatuses, including cables, switch machines, and signals.

Prior Experience

Southeastern Pennsylvania Transportation Authority (SEPTA), Market-Frankford Subway Elevated Train Control, Philadelphia, PA

Project Manager responsible for the design of a new train control system for the Market-Frankford Subway Elevated, SEPTA's busiest rail line. Known as the Blue Line, the two-track facility extends for 14 miles and has 28 stations. The design included audio frequency track circuits and cab signals with over-speed control, power frequency interlocking track circuits, bidirectional signaling, new communications equipment, and other enhancements. All interlocking logic was converted to vital microprocessors.

Bruce R. Smith, PE

Quality Assurance

ISO 9000 Manager responsible for establishing, implementing, and maintaining the Transit & Rail Practice Quality Management System and making certain that the Quality Management System complies with the requirements of ISO 9001:2008. Responsibilities include meeting with management and staff to review the continuing suitability, adequacy, and effectiveness of the Quality Management System and identifying opportunities for improvement. Responsible for training personnel in other Transit & Rail Practice offices regarding the requirements of the Quality Management System and assisted in implementing the quality procedures into their projects and achieving ISO certification. Also conducts internal audits of Transit & Rail Practice offices to verify that the audited activities conform to the requirements of the Practice Quality Management System.

Florida Department of Transportation, District 4, Florida East Coast Corridor Alternatives Analysis, Miami-Dade, Broward, and Palm Beach Counties, FL,

Project Engineer responsible for developing estimated capital costs for 38 alternatives encompassing regional (commuter) rail, rail rapid transit, bus rapid transit, light rail transit, and regional (commuter) bus. The project consisted of a tiered alternatives analysis and environmental analysis for regional transit improvements in an 85-mile corridor centered on the Florida East Coast Railway. It was the first application of the new National Environmental Policy Act (NEPA) Tier environmental impact statement process in Florida.

Various Projects, Quality Assurance/Quality Control (QA/QC)

QA/QC Manager or QA/QC Coordinator on various multidiscipline projects responsible for making certain that the Transit & Rail Practice QC procedures are followed prior to submitting deliverables to the client. Projects include CORRIDORone Preliminary Engineering, Harrisburg, Pennsylvania, for Capital Area Transit; North Shore Connector - Systems Engineering, Pittsburgh, Pennsylvania, for the Port Authority of Allegheny County/DMJM+Harris; and Niantic River Bridge Reconstruction, Niantic, Connecticut, for the National Railroad Passenger Corporation (Amtrak)/Hardesty & Hanover LLP.

Education:

B.S., Civil Engineering, The Pennsylvania State University, 1976

Registrations:

P.E.: Pennsylvania - No. [redacted] (1983)

Ohio - No. [redacted] 1987)

Kentucky - No. [redacted] (1995)

Massachusetts - No. [redacted] 1999)

Employment History:

Gannett Fleming 2000 - Present

HDR Engineering, Inc. 1994 – 2000

SEPTA 1990 – 1994

Transportation & Distribution Associates, Inc. 1979 – 1990

Grand Trunk Western Railroad Company 1977 - 1979

Restoration of Subway 1 and 9 Lines, New York, NY, MTA New York City Transit (NYCT)/ Tully Construction Company, Inc., and A. J. Pegno Construction Corporation, Joint Venture

Task Manager responsible for providing track and civil engineering support to the general contractor reconstructing NYCT's 1 and 9 Lines in Lower Manhattan. Approximately 1,200 LF of the existing subway structure was destroyed or extensively damaged during the 9/11 terrorist attack on the World Trade Center. Like the original, the replacement structure was constructed by the cut-and-cover method. Developed the construction layout drawings for the subgrade and tremie slab, placement of steel frames, and location of duct banks and station platforms. The complex horizontal and vertical alignment required a detailed review of clearances. The existing geometry at tie-in points was evaluated to determine the modifications required to the new alignment and subway structure.

MTA Long Island Rail Road (LIRR), East Side Access, Queens, NY

Senior Engineer responsible for preparing the preliminary design construction cost estimate and the preliminary design report for the East Side Mid-Day Storage Yard, which will consist of a new 26-track storage yard, yard office, and other support facilities. Also prepared the preliminary design construction cost estimate for the Arch Street Yard and Shop. The Arch Street facility will house a new railcar maintenance shop, support buildings, and trackage. Both facilities will enhance future LIRR commuter rail service into Manhattan's Grand Central Terminal.

City and County of San Francisco/San Francisco Municipal Railway, Metro East Light Rail Vehicle (LRV) Maintenance and Operations Facility, San Francisco, CA

Senior Engineer responsible for reviewing 60 percent design drawings and documenting potential constructability issues associated with the construction of an LRV maintenance facility. The review focused on identifying potential design and construction conflicts among different systems and elements (civil, utilities, track, roadway, railroad signaling, and traction power).

Robert Spero

Project Manager

Robert Spero has over 28 years of diverse railroad transportation experience. Mr. Spero's last position with the MTA was Chief Operations Officer, in charge of the East Side Access $1.5 billon dollar Force Account Construction Project. He has an in-depth background in track outages and operations planning for railroad construction, and was part of the ESA team that developed the Harold Interlocking Master Construction Schedule involving 3rd Party Contractors, Amtrak and LIRR Force Account.

MTA Capital Construction, LIRR East Side Access

As Chief Operations Officer, Mr. Spero managed the $1.5 billion reconfiguration of Harold Interlocking, with responsibilities including management of all force account work, development of schedules for 3rd party work and railroad work, the resource loading for each railroad, and the budgetary impacts for the railroads and the project. He worked directly with the Chief Transportation Officer and Chief Engineer in the development of the Harold Interlocking four-stage construction plan for both LIRR and Amtrak. In addition, he oversaw the track outage plans for Harold Interlocking for four railroads (Amtrak, LIRR, NJT and NYAR), as well as all operational issues regarding the design completion and start-up construction for the Grand Central Terminal (GCT) tunnels and concourse layouts. Mr. Spero also participated in the development of testing and commissioning plans for Harold Interlocking, the new GCT tunnels and the station; oversaw all force account invoicing for Amtrak, LIRR and NYAR; and provided input into the development of safety and security plans for the new GCT.

MTA Capital Construction, LIRR East Side Access

As Director, Railroad Operations, Mr. Spero oversaw all aspects of transportation and engineering. He developed the scope of work for the operating departments of the six major railroads involved in the project. Mr. Spero oversaw the design and simulation for operating plans associated with new infrastructure and operations for the new GCT station and the new midday storage yard. He developed the operating plan for the redesign, construction, and final operation of Harold Interlocking and developed the new GCT station design, coordinating multiple users, train operations, passenger flow and station layout, fire life and safety issues, and the opening day operations and maintenance plan.

Education:

M.B.A., Business, Dowling College, Oakdale, New York 1990

B.B.A., Business Administration, Dowling College, Oakdale, New York 1984

Long Island Railroad – Qualified on the Book of Rules and Physical Characteristics (1984)

Employment History:

SYSTRA Consulting, Inc., 2009 – present

Long Island Rail Road, 1989 – 2009

MTA Capital Construction, LIRR East Side Access

As Senior Manager, Railroad Operations, Mr. Spero developed a SOW that allowed all project members and railroad agencies to work together in the design of the East Side Access project, and served as a member of the operations and design team that redesigned Harold Interlocking. He also served as a member of the operations and design team that developed the GCT approach and terminal operations. Both team efforts received awards of excellence. Mr. Spero was a member of the operations and design team that developed the Midday Storage Yard, Arch St. design/build package.

LIRR

As Director, Customer Quality and Service Strategies, Mr. Spero developed future service plans, defined scope, and analyzed capacity problems. He provided expertise to address capital projects, fare collection strategies, introduction of new equipment, parking policy, train and bus operating plans, and community issues. As part of his responsibilities, Mr. Spero established and applied the framework for coordinating the demands of the operating departments and the budget and marketing/public affairs departments in the development and design policies regarding the new dual mode fleet. He designed scenarios to determine schedule purchase and implementation of the M-7 Fleet; served as a member of the Tri-Venture Council responsible for coordinating the development of a Penn Station joint operating plan among LIRR, New Jersey Transit, and Amtrak; and introduced the policies needed to receive funding for the JO Interlocking project.

LIRR, Penn Station, NY

As Lead Transportation Manager, Mr. Spero was esponsible for rush hour on-time performance, which involved the development of an improved Penn Station Manipulation Plan for the optimal use of crews and equipment, while working with operating departments.

Jose A. Diaz, PE

Senior Planning Manager

Mr. Diaz will serve as Senior Planning Manager for the Port Authority contract. He has over 30 years of engineering and project management experience. Mr. Diaz has expertise in construction and project management as well as extensive experience in cost engineering, including the development of complex cost models relating to commercial interactions between stakeholders. His experience encompasses a wide variety of projects throughout the United States and overseas. He has in-depth experience with transportation facilities, such as highways and rail yards and had the opportunity to work with the Port Authority closely during the reconstruction and restoration of the World Trade Center. Mr. Diaz provides technical consultation and project management services on capital construction and environmental remediation projects, including services related to complex engineering and construction-related claims and disputes.

Port Authority of New York & New Jersey (PANYNJ), World Trade Center (WTC) Downtown Restoration Program, New York, NY

Hill is providing program management services in connection with the planning, design, and construction of the new facilities at the World Trade Center, including the new permanent PATH Terminal (Transportation Hub). On assignment at the WTC site as Project Director, Mr. Diaz headed up a Hill International team responsible for providing program management services to PANYNJ related to the redevelopment of the project site. Services include scheduling, cost modeling, budgeting, and cost controls for all the capital programs planned for the WTC site valued in excess of $12 billion. Redevelopment programs include the WTC Transportation Hub, the WTC Memorial, site infrastructure, and retail and commercial facilities.

Port Authority of New York and New Jersey (PANYNJ), Insurance & FEMA Claims – World Trade Center & PATH, New York, NY

Mr. Diaz served as project manager, on an assignment with the PANYNJ and working for the Assistant Chief Engineer, for the 9/11-related World Trade Center loss recovery effort. He was a member of the Loss Recovery Team and was responsible for managing the estimating efforts for the capital losses sustained by the PANYNJ and for presenting the estimated loss claims to the insurers and FEMA. The project involved over $1 billion in losses related to the World Trade Center buildings and the PATH system. Losses to the PATH system include the World Trade Center Station, the tunnels under the Hudson River, and Exchange Place Station in New Jersey.

Education:

M.S., Civil Engineering, Rensselaer Polytechnic Institute, 1979

B.S., Civil Engineering, Rensselaer Polytechnic Institute, 1976

Registrations:

Professional Engineer, New York

Professional Engineer, New Jersey

Professional Engineer, Pennsylvania

Professional Engineer, Puerto Rico

Employment History:

Hill International, Inc., 1993-Present

Clayton Environmental Consultants, Inc., 1990-1993

Soils Engineering Services, Inc., 1988-1990

Public Service Electric & Gas Company, 1981-1988

American Electric Power Service Corp, 1977-1981

Metro-North Commuter Railroad, Harmon Yard Remediation, New York, NY

Mr. Diaz completed an assignment as Project Manager for a $20 million environmental clean-up project for Metro-North Railroad involving remediation of a PCB and organic compound laced lagoon. He was responsible for overall project management and organization, overseeing the site remediation and removal of the contaminated materials.

New Jersey Turnpike Authority, On-Call Claims Management, NJ

On an assignment for the New Jersey Turnpike Authority, Mr. Diaz evaluated major issues associated with differing site conditions claims. The work involved major contaminated soil excavations and the construction of roadway embankments. On a second assignment, Mr. Diaz consulted on a differing conditions claim related to the installation of sonotubes, which caused cost overruns and delays.

New York Metropolitan Transportation Authority (MTA), Independent Engineer's Certification Program, New York, NY

Mr. Diaz is responsible for evaluating the adequacy of the maintenance programs for the Line Structures managed and executed by the MTA's operating agencies (New York City Transit, Long Island Rail Road, and Metro North Railroad). The reviews include the evaluation of the structural maintenance and repair programs for a vast infrastructure of bridges, retaining walls, viaducts, culverts, and tunnels.

Union Station, Washington, DC

As Project Director, Mr. Diaz managed the development of cost estimates for a number of conceptual alternatives for possible intermodal transportation improvements slated for Union Station. Estimated costs ranged on the order of $150 million.

Houston Metro Commuter Rail, US 90A, Metropolitan Transit Authority of Harris County, TX

Mr. Diaz performed a peer review of the Environmental Assessment report for a proposed light rail transit line linking the City of Houston with Missouri City, Texas.

State of Connecticut, Office of Policy & Management, New Haven Rail Maintenance Facility, New Haven, CT

Hill was retained by the Office of Governor M. Jodi Rell to review and analyze the scope, cost and budget of a proposed major expansion of the New Haven Rail Maintenance Facility, including the construction of new office, training, and employee wellness facilities, estimated in excess of $1 billion. As Project Manager, Mr. Diaz managed and participated in the analysis, the development of recommendations, and the preparation of reports presented to the Governor and the Legislature.

Metro-North Commuter Railroad, Harmon Yard Seepage Control Project, New York, NY

As Project Director, Mr. Diaz oversaw the design and installation of a seepage control cut-off wall, containment boom, and free-product (NAPL) recovery system at the Harmon Yard for Metro-North Railroad.

Harry W. Morton

Lead Field Coordinator

Senior Inspector responsible for commercial, bridge, highway, and railroad track and yard construction and reconstruction projects from award through finalization. Also supervises company, contractor, and public agency personnel to verify quality and adherence to contracts, plans, and specifications.

Port Authority Transit Corporation (PATCO) Right-of-Way Embankment Restoration, Phase 3, Contract No. 5-E, Camden County, NJ, Delaware River Port Authority

Chief Inspector responsible for construction inspections of the installation of embankment slope stabilization measures and improvements to the existing drainage system on the PATCO High-Speed Line. Specifically responsible for inspecting the installation of riprap and vegetated slope protection measures and drainage pipes and inlets. The assignment also included approving materials, verifying quantities, negotiating change orders, preparing contractor monthly invoices, attending progress meetings, and coordinating work efforts with other PATCO capital improvement contracts.

Prior Experience

Automatic Train Control Project, Philadelphia, PA, Southeastern Pennsylvania Transportation Authority

Assistant Resident Inspector for the construction of an automatic train control system. Responsible for providing daily on-site inspection services and documenting all phrases of construction for the entire Blue Line System from the Frankford Terminal to the 69th Street Terminal. The project involved the installation of a state-of-the-art signal and communications system and included the construction of new train control rooms and a major control center. Two double crossovers were installed at the 40th Street and the 69th Street interlockings. The five new masonry block control rooms were supported on five new steel structures attached to the existing elevated structure. The project also included the installation of new electrical and mechanical equipment.

Frankford Elevated Reconstruction, Philadelphia, PA, Southeastern Pennsylvania Transportation Authority

Assistant Resident Inspector responsible for supervising a team of engineers and inspectors for the reconstruction of a commuter rail section. Responsibilities included verifying and documenting the reconstruction and replacement of an existing structure with new steel

Education:

Civil Engineering Courses, Army/Navy Technical Institute, 1968-1970

Civil Engineering and Project Management Courses, ICS Technical Institute, 1982-1985

Track Inspection, Consolidated Rail Corporation, 1985

Track Foreman Training, Consolidated Rail Corporation, 1988

Project Management Training, Parsons Brinckerhoff Construction Services, Inc., 1994-1998

Basic Track Inspection Workshop, Railway Educational Bureau, 1999

Construction Safety and Health Training, Occupational Safety and Health Administration, 1999

Fall Protection Training (Title 29 CFR 1926.500), National Environmental Trainers, 2005

Registrations:

NECEPT Bituminous Pavement Field Technician
ACI Concrete Field Testing Technician - Grade 1

PennDOT Concrete Field Testing Technician

MARTCP Hot Mix Asphalt Field Technician

MARTCP Concrete Field Technician

MARTCP Soils and Aggregate Compaction Field Technician

Troxler Nuclear Testing Equipment Certification

NICET Level IV - Highway Construction

Employment History:

Gannett Fleming
2007 - Present

Remington, Vernick & Beach Engineers 2006 - 2007

DMJM Harris 2002 - 2003

Parsons Brinkerhoff Construction Services
1994 - 2002

Hill International, Inc.
1992 - 1994

O'Brien Kreitzburg, Inc. 1992

Consolidated Rail Corporation (Conrail) 1978 - 1992

stringers and precast deck panels, the replacement of track with new direct-fixation track, and the installation of six new double crossovers. The project also involved the renewal of a two-track, 5.25-mile-long, elevated transit line, which included 3 bridges and 11 passenger stations, as well as the associated traction power, signal, and communications facilities.

Richmond Hill Yard Improvements, Richmond Hill, NY, MTA Long Island Rail Road

Senior Chief Inspector responsible for supervising engineers and inspectors for civil, electrical, mechanical, site, and track work for improvements to a complex railroad yard facility. Performed and supervised daily on-site inspections to verify compliance with approved plans and specifications. Work involved the removal of more than 25,000 cubic yards of contaminated soil and its replacement with off-site borrow material; the construction of storm and sanitary systems, a diesel fueling system, and an oil/water separator system; and the installation of cast-in-place reinforced concrete fueling pads, including new track for the maintenance of a locomotive fleet, as well as associated operating facilities. Also supervised the local testing of soil and concrete in accordance with the New York State Department of Transportation's standard specifications for roads and bridges.

Various Projects

Project/Field Inspector for many large and small construction projects, which included the demolition and reconstruction of more than 1,000 at-grade crossings and the associated crossing protection equipment throughout Pennsylvania, New Jersey, Maryland, and Delaware. The reconstruction of these crossings involved the installation of new track sections and surface treatments, as well as the appropriate crossing protection equipment, and the reconstruction of approach roadways. Also designed and implemented highway road closures and detours and inspected and documented work involving the reconstruction of bridges crossing over railroad right-of-way. Oversaw the installation of overhead cable/wire crossings and underground pipe crossings, working directly with the appropriate agencies to make certain of proper installation and compliance with all regulations. All work was performed in accordance with the approved plans and specifications of the both the railroad and the individual states involved.

Richard Funk

Field Coordinator

Mr. Funk has more than 40 years of diverse experience in engineering and construction for rail facilities and system improvements, electric power projects, roads, utilities, and other types of infrastructure. He has been involved in track construction and improvements, as well as passenger stations and intense background in tunneling for various projects involving transit and heavy rail. Mr. Funk has also been involved in Homeland Security construction efforts- cameras and monitoring stations. His responsibilities have encompassed a wide range of duties for supervising and managing construction site activities including field inspections, quality control, change order review, progress payments, safety, estimate reviews and analysis and constructability reviews.

Metro-North Station Improvements to Botanical Gardens, Woodland and Williams Bridge Stations

Mr. Funk provided On-site Supervision and Field Inspection Services for the station improvements, platform rehabilitations and hi-level platform extensions and cross over elevators at Botanical Gardens station along Metro-North's Harlem Line. Responsibilities also included adhering to the budget and schedule and conforming to contract specifications.

NJ Transit Newark Central Bus Complex

As Civil Inspector, Mr. Funk assisted site management for the rehabilitation and construction of a 350,000 SF bus storage and maintenance facility for heavy mechanical, unit and body repair area and central parts warehouse, and waste pretreatment facility. Coordinated scheduling between contractors, subcontractors, vendors, site inspection and quality control.

Amtrak Station Assessment Surveys

Mr. Funk served as Construction Manager engaged in field assessing ADA and State of Good Repair surveys of passenger stations for Amtrak for the purposes of determining the scope of work required for both ADA and SGR work. Investigated structural and roofing components, electrical and plumbing systems, fire, security and safety systems, heating and air condition. Assisted in preparation of recommended improvements and estimates for ongoing and proposed maintenance costs impacts.

NJ Transit Hudson-Bergen Light Rail Transit System

Mr. Funk provided Construction Management Oversight and Resident Engineering for expansion of the Weehawken Tunnel and construction

Education:

A.A.S., Civil Engineering, Gloucester County College, 1971

U.S. Army Corps of Combat Engineers, 1966-1972

Institute of Asphalt Technology

Conrail Training Courses: Track Foreman, Track Supervision, Conrail Quality Control and Conrail's Challenge of Supervision

OSHA 30-hour Safety Course

Employment History:

SYSTRA Consulting, Inc.,1992 – present

Consolidated Rail Corp., 1985 – 1992

McFarland & Johnson, 1984 – 1985

United Engineers & Constructors, 1979 -1984

Gloucester County Engineering Department, 1971 - 1979

of the Bergen-Line Station. Project involved a new light rail service, including stations, park-in-ride facility, overhead catenary power system, elevators, ventilation systems, wayside signals, VIS signage and Homeland Security systems. The design and build effort was to enlarge the existing 4,500 foot tunnel to accommodate a two track system. A new underground station was constructed 160 feet below the surface; access is via a vertical shaft which was accomplished by blasting the crown and tunnel sides and blasting the 60-foot diameter shaft for the three elevators from the surface plaza area. Was also responsible to monitor all design changes and T/M work associated with the station and plaza area for bus drop off and storage buildings, also for the installation of the Homeland Security systems for the underground station, Tunnel Avenue Station and Port Imperial Station.

Lackawanna County Railroad Authority

Mr. Funk provided On-site Construction Management Services for newly constructed trolley tracks from existing mainline trackage to the Philadelphia Phillies “Red Barons” ball stadium. Work involved half mile track with OCS, grade crossings, passenger station and a track maintenance and storage building.

Delaware River Port Authority

Mr. Funk provided On-site Construction Monitoring Services to certify that all materials and workmanship for this project was completed in conformance with contract requirements and standards. 50,000 concrete cross ties were installed to replace existing wood ties.

Nellie Torres

Lead Plan Coordinator / Field Coordinator

Ms. Torres, SYSTRA's Assistant Vice President of Project Controls, has more than 19 years of experience in managing construction operations, including construction management, cost control, business plans, budget, scheduling, procurement, and labor productivity. Her responsibilities on railway and transit engineering projects have included construction operations, cost control, constructability analysis, capital cost estimating, proposal development, change order estimating and management, operational audits, and specialty procurement. Ms. Torres professional experience includes the following representative projects:

Priminao Electric Corporation, New Yankee Stadium, Center Field Electrical

Ms. Torres was Project Manager directly responsible for the management of the Center Field Electrical Installation Contract for a Local 3 contractor at the New Yankee Stadium project. She was responsible for managing and maintaining project schedules, change order estimates and negotiations, material buyouts, man-hour estimates, cost/cash flows, preparation of WIP reports, progress meetings, coordination of material deliveries, and coordination of commissioning.

IQ Consultant for NYCT S-32716 - Contract Management/ Administration and Claim Response on Project S-32716

Ms. Torres furnished and installed new signal equipment for the number seven Flushing Line. Management of the Newark-Elizabeth Rail Link Subway – Raymond Boulevard to the Newark Performing Arts Center Scope involved the buy-out and management of the catenary installation, the procurement of the signal, communication and traction power equipment for this a mile and a half extension. Work included review of all submittals, circuit drawings, factory quality inspection, interfacing, review and negotiation of all electrical change orders and support of the electrical installation of specialized equipment.

GPS Company Contract and Project Management

Ms. Torres was responsible for areas of risk analysis, claim preparation, cost control, project management, and procurement.

NYCT/NY Power Authority Cost Estimates and Financial Analysis

Ms. Torres was responsible for cost estimating and financial analysis on this traction power study.

Education:

M.S., Construction Management, Polytechnic University 2009

B.S., Finance, Baruch College 2001

Employment History:

SYSTRA Consulting, Inc., 2009 – present

Priminao Electric, 2007 – 2009

Project Span Services, 2002 – 2007

LK Comstock, 1992 -2002

Morris Diesel International, 1989 - 1992

L.K. Comstock & Co., Inc. National Transit

As Former Operations Controller, Ms. Torres was responsible for construction operations and financial management for the National Transit Division, which consisted of signal, catenary, traction power and communications projects in the light rail, heavy rail and automated people mover industries. She conducted operational audits of jobs to estimate "to-go" manhours, along with projections of total costs and profit. She made routine visits to all jobsites around the country to analyze present period performance and to institute operational changes to improve project management and financial performance. Ms. Torres was responsible for the analysis of all labor productivity reports, with an emphasis on minimizing labor losses due to productivity issues. She developed standardized operational procedures for cost control, scheduling, AP/AR and purchasing. She managed the CPM and Procurement Departments. She was directly responsible for the projection, preparation, tracking and control of division revenue, profit and overhead budgets for approximately $50 million in yearly revenue and backlog in excess of $150 million. She analyzed monthly Work in Place Reports (WIP) and overhead reports produced by accounting to ensure financial stability. She established internal controls to improve/maintain project profitability and to ensure that the financial and management reports are representative of the present status of the division. She also hired and trained personnel in their specific job functions and *Timberline* and *McCormick* software utilization.

L.K. Comstock & Company, Inc., Commercial Division

As Former Operations Controller, Ms. Torres was promoted to Operations Controller of the Commercial Division involving approximately $30 million in annual revenue.

Peter Gentle, PE

Field Coordinator / Facilities, Civil & Track and Rail Operations Expert

Mr. Gentle will serve as a Field Coordinator for the Port Authority. He is a Vice President with Hill's Project Management Group and has over 35 years of progressive and diversified experience in the planning, design management, maintenance, and construction of rail, transit, bridge and highway projects. Prior to joining Hill, Mr. Gentle served as Assistant General Manager of the Port Authority Transit Corporation. Earlier in his career, he was an engineer with the Delaware River Port Authority, Consolidated Rail (Conrail) Corporation, and the Pennsylvania Department of Transportation. Mr. Gentle's experience has provided him with a broad understanding of the maintenance and construction industry from all perspectives. His strengths include leadership and staff development, strong technical abilities in planning and constructability analysis, program management and administration, program scheduling and implementation, budget development and control, maintenance management and administration.

Prior Experience

Port Authority Transit Corporation, PATCO, Lindenwold, NJ

As the Assistant General Manager Engineering and Maintenance, Mr. Gentle assisted the General Manager in the management of PATCO by directing the functions of PATCO's Way and Power and Equipment Divisions. He directed all system maintenance as well as PATCO's management functions by performing a variety of planning, technical, financial and administrative duties. This included identification, planning, and oversight of the design and construction of capital projects necessary to keep the system functioning properly and to ensure PATCO's safe operations. Mr. Gentle also prepared staffing and budgetary recommendations and he provided budgetary review and control on an ongoing accounting basis in his areas of responsibility.

Port Authority Transit Corporation, PATCO, Lindenwold, NJ

As Director of the Way and Power Division administering in-house construction activities with an annual budget averaging $5.5 million, Mr. Gentle was responsible for all maintenance related to PATCO's operation with the exception of the rolling stock and far collection equipment. His duties included engineering analysis related to the design, construction and repair of PATCO facilities such as signal, power and communications equipment, track and structures, and station-related facilities. In addition, he was responsible for all management functions related to personnel, budgeting, and administration of the Union contract.

Education:

M.C.E., Civil Engineering, Villanova University, 1984

B.C.E., Civil Engineering, Villanova University, 1973

Registrations:

Professional Engineer, Ohio

Professional Engineer, Pennsylvania

Registered Professional Surveyor

Professional Engineer, New Jersey

Professional Engineer, Indiana

Employment History:

Hill International, Inc., 2009-Present

STV Incorporated, 2000-2009

Port Authority Transit, 1986-2000

Delaware River Port Authority 1984-1986

Caisson Corporation, 1980-1984

Consolidated Rail Corp, 1978

Pennsylvania Department of Transportation, 1973-1978

Port Authority Transit Corporation (PATCO), Lindenwold, NJ

Reporting to the Director of the Way and Power Division, Mr. Gentle was responsible for daily management of PATCO's Civil, Structural, Mechanical and Highway Maintenance Programs including maintenance of the work equipment, both track and highway vehicles. His management duties included cost control, preventive maintenance programming, maintenance of the facilities, company-controlled inspection of all structures (both concrete and steel), engineering analysis of defects and repair procedures for all facilities, and company-controlled construction for both the day and night shift.

Rehabilitation of the PATCO High-Speed Line on the Benjamin Franklin Bridge, NJ, PA

Reporting to the Manager of Engineering and Planning for the Delaware River Port Authority, Mr. Gentle performed the Project Engineer function during rehabilitation of the PATCO Hi-Speed Line on the Benjamin Franklin Bridge. The project required installation of three movable maintenance platforms on the Benjamin Franklin Bridge as well as roadway redecking of the Bridge. Mr. Gentle's duties included oversight of the consultant inspection or direct control of contractors' functions, cost control, engineering management, claim settlement, liaison with all internal departments, as well as PATCO and project safety.

San Francisco Municipal Railway Central Subway Tunnel, CA

Mr. Gentle performed project management oversight for the FTA as the technical lead for the preliminary engineering phase on this $1.5 billion project which included station, track, twin bored tunnels, catenary, substation, and geotechnical designs. He was also responsible for the Environment Impact Statement and Report (EIS/EIR) review and risk assessment analysis.

San Francisco Municipal Railway Monitoring and Evaluation (M&E) Shop Facility, CA

Mr. Gentle performed construction management oversight for the Federal Transit Administration (FTA) on an $180 million M&E shop facility which included storage for 80 light rail cars, both heavy and light repair tracks, a blow pit track and car wash track, as well as numerous offices, training rooms and utility rooms. The yard was fully electrified and the facility maintained a complete substation.

Girard Avenue Light Rail Rehabilitation Project, Philadelphia, PA

Mr. Gentle performed the duties of Program Manager for Southeastern Pennsylvania Transit Authority's (SEPTA) rehabilitation project which included track, power, paving, special track work and overhead catenary in an active city street.

Newark City Subway to the Broad Street Train Station, Newark, NJ

Mr. Gentle served as Construction Manager for the extension of the Light Rail Subway from an existing subway to an at-grade Light Rail Transit (LRT) in downtown Newark to the existing commuter rail station on Broad Street. The project involved all aspects of a new light rail line including a cut and cover tunnel, track and special track work, catenary structures, traction power and train control signalizing systems, tunnel ventilation as well as various utility relocations. The project consisted of multiple contracts totaling approximately $120 million.

George E. Duda, PE

Field Coordinator

Mr. Duda will serve as a Field Coordinator for the Port Authority. He is a Hill Project Manager with over 30 years experience in areas of project and construction management, engineering analysis and design, construction, resolution of construction claims, and litigation support. Major projects include bridges, highways, airports, railroad facilities, rail transit car procurement, educational facilities, electrical generating stations, high rise commercial buildings, landfills, and various smaller projects.

Pioneer Parkway, Springfield, Lane Transit District QA/QC Services, OR

Mr. Duda was the Civil and Structural Engineer for the Pioneer Parkway EmX Project Value Engineering (VE) Study. The Pioneer Parkway is a 6-mile Bus Rapid Transit Line in Springfield, Oregon. The study identified and evaluated 20 specific items ranging from right-of-way construction materials to the use of wireless communication on the buses for the control of traffic signals.

New Jersey Turnpike Authority Statewide Traffic Management Center (NJTA STMC), Woodbridge, NJ

Mr. Duda is presently serving as the Project Executive for construction of management of the new $24 million, 3-story, NJTA STMC project. The project is a steel frame and concrete structure adjacent to the existing Administrative Building. The site is very constrained and the adjacent Administrative Building with State Police functions must be kept operational 24/7. His responsibilities include Project Administration functions, as well as technical responsibility for design reviews for structural steel, concrete and site utilities; resolution of design related construction issues; and claims avoidance.

New Jersey Transit, General Engineering Consultant, Newark, NJ

Mr. Duda served as Project Construction/Construction Manager for various projects under the New Jersey Transit's General Engineering Consultant (GEC) Task Order Contract. His responsibilities included contract administration, design reviews, project and construction management, coordination support, and coordination with Operations.

Federal Transit Administration (FTA), Regional Rail Division Bridge, Station and System Improvement Program, SEPTA

Mr. Duda completed an assignment as the Project Manager under the Federal Transit Administration's Project Management Oversight

Education:

M.S., Civil Engineering, Drexel University, 1977

M.S., Engineering Geology, Drexel University, 1997

B.S., Civil Engineering, Drexel University, 1975

Registrations:

Professional Engineer, Pennsylvania

Professional Engineer, New Jersey

Employment History:

Hill International, Inc., 1985-Present

Stone & Webster Engineering Corporation, 1979-1985

Consolidated Rail Corporation, 1977-1979

Bechtel Power Corporation, 1972-1975

(PMO) Program for the SEPTA $286 million Regional Rail Division Bridge, Station and System Improvement Program. The program contained 27 individual projects which involved the replacement or rehabilitation of 25 bridges, new rail signals, communication and catenary systems, new CWR track work including special track work, construction of two new stations along with abutment and retaining wall repairs. His responsibilities included monitoring project progress and status with respect to cost, schedule, management performance, administrative reviews, prudence of management decisions, quality control/quality assurance audits, and evaluation of applicable force account expenditures. Special projects included the review of proposed project cost increases with respect to bridge and track rehabilitation, and the SEPTA Change Order Process and provision of recommendations to the FTA.

NJ TRANSIT, Southern New Jersey Light Rail Transit System (SNJLRTS)

The project was an independent study of the sequencing and constructability of the existing Bordentown Trenton Secondary Track for the SNJLRTS to reaffirm a 3-year construction period. Mr. Duda determined the scope of work and the construction duration for various construction activities for the project.

South Jersey Transportation Authority (SJTA), Capital Improvement Program, Atlantic City International Airport, Atlantic City, NJ

Mr. Duda served as Hill's Project Manager for the SJTA $77 million Capital Improvement Program at the Atlantic City International Airport. Hill provided project management and construction management services for 31 projects which included airfield improvements, extension of the existing terminal and parking areas, roadway improvements and additional signage. Services include conceptual engineering to implement projects contained in the Airport Master Plan, design consultant monitoring, grant preparation and construction management.

Southeastern Pennsylvania Transportation Authority (SEPTA), Frankford Elevated Rail Car Procurement, Responsibility Review Buy America Audit

Mr. Duda provided a responsibility review of three bidders for the $285 million procurement of 220 rail transit vehicles for the Frankford Elevated Line. He was responsible for review of the bidder's performance on previously completed projects.

Chicago Regional Transportation Authority (METRA), Morrison-Knudsen Transit Company, Gallery Cars Procurement

Mr. Duda provided delay analysis for the $253-million procurement of 173 new vehicles. He was responsible for determining the schedule impact resulting from design and enhancement changes.

NJ TRANSIT, Delaware Valley Regional Planning Commission, Burlington-Gloucester Corridor Study

Mr. Duda performed a feasibility study to install a new No. 8 Track Crossover at the existing PATCO 15th and Locust Street Station to allow for an increase in the frequency of train service.

James J. Mortimer, Jr., PE

Field Coordinator

Mr. Mortimer will serve as a Field Coordinator for this contract. He is a Professional Engineer with over 30 years of experience in the construction industry. Mr. Mortimer has served as vice president, project manager, program manager, and resident engineer managing transportation-related projects throughout the region. He has extensive experience as a construction supervisor and is knowledgeable in the area of contract administration.

Port Authority of NY & NJ (PANYNJ), World Trade Center Path Station Reconstruction, New York, NY

Hill International was asked to provide consulting services to the PA/NY&NJ regarding the method proposed by the insurance company, Alliance/Axia, and their construction manager, The Gilbane Company, to decontaminate and deconstruct the Deutsche Bank Building. Mr. Mortimer reviewed documents, attended meetings, and evaluated Alliance/Axia's proposal, which was part of the process for acquiring the property by the Lower Manhattan Development Corporation.

Port Authority of NY & NJ (PANYNJ), Insurance and FEMA Claims for WTC Facilities, New York, NY

Mr. Mortimer organized and oversaw the initial effort to estimate the damages sustained by the Port Authority in the attack on the World Trade Center. Hill's estimates formed the basis of the Port Authority's settlement of claims with their insurance carriers and the Federal Emergency Management Agency (FEMA).

New Jersey Turnpike Authority (NJTA), Traffic Management Center, Woodbridge, NJ

As part of the consolidation between the New Jersey Turnpike Authority and the Garden State Parkway, the NJTA is expanding the existing Parkway building in Woodbridge to include a mission critical traffic management center. This new $21.5 million center will be the nexus for Turnpike and Parkway control. Mr. Mortimer was Hill's Project Manager for this fast-track building project, from the starting early in the pre-construction phase in April 2006 until completion in November 2008. His duties included definition of fast-track bidding packages, schedule and budget control, and overall responsibility for directing the consultant team and maintaining the project schedule.

Education:

M.S., Civil Engineering, New Jersey Institute of Technology, 1980

B.E., Civil Engineering, Manhattan College, 1968

Registrations:

Professional Engineer, New Jersey

Employment History:

Hill International, Inc., 1988-Present

Gambal and Associates, Inc., 1979-1988

800 Constructors, Inc., 1977-1978

Tishman Construction Corporation, 1972-1977

Mobil Oil Corporation, 1971

US Marine Corp, 1968-1971

Conforti and Eisele, Inc., 1968

New Jersey Transit, General Engineering Consultant, Newark, NJ

Mr. Mortimer served as a project coordinator for New Jersey Transit under Hill's General Engineering contract with the agency. As project coordinator, Mr. Mortimer was responsible for $6 million worth of improvements to the traction power system on the North Jersey Coastline and $600,000 of rehabilitation work on stations at Woodbridge, Long Branch and a $1 million design/build contract to replace the station platforms at Avenel. Mr. Mortimer was responsible for the administration of the project including the submission and review of shop drawings; the running of bi-weekly progress meetings; review and monitoring of the schedule; review and approval of payment requests; handling of requests for information and correspondence; and the processing of change orders.

New Jersey Schools Construction Corporation, New Jersey Schools Construction and Renovation Program, NJ

The New Jersey Schools Construction Corporation (NJSCC) is undertaking a $12 billion program to rebuild schools throughout the State of New Jersey. Mr. Mortimer served as Senior Project Manager for $28 million in additions and renovations to Burlington City High School, the new $24 million Wilbur Watts Intermediate School, the new $22 million Joyce Kilmer Elementary School, the adaptive reuse and renovation of the Roebling Steel Factory into a new $70 million K-8 Elementary School, and the construction of a new $16 million Early Childhood Center in Pemberton. Mr. Mortimer oversaw a staff of 12 people taking projects from design development to project closeout.

New York City School Construction Authority, 5 Boroughs, PLA Study, New York, NY

Mr. Mortimer performed an economic analysis for the Capital Improvement Program work being performed under the proposed PLA. The projected savings was $500 million on the $6 billion worth of work being performed. The bulk of the savings came from working on a shift differential under the PLA in lieu of overtime, since most of the work had to be performed on off hours after school was over.

New York City Department of Design and Construction, CM-Build for New York City Schools, New York, NY

Mr. Mortimer was Hill's Project Manager for a construction management/build contract. Hill was assigned 14 construction projects at schools in Queens and Brooklyn. Hill's contracts required $44 million in construction to be put into place over four summers. The work included wood window repair, aluminum sash replacement and aluminum window replacement, exterior masonry repair, terracotta repair and replacement roofing, asbestos abatement, and lead-based paint abatement. Hill's team participated in the initial job kickoff and review of construction documents, bid all the work out to pre-qualified subcontractors, and administered and supervised the project from contract award to project closeout.

John H. Lehman, PE

Field Coordinator / Facilities, Civil & Track Expert

Mr. Lehman will serve as Field Coordinator for the Port Authority contract. He has over 35 years of experience in the transportation sector. Mr. Lehman has directed multi-disciplinary, multi-national engineering design teams on rail car manufacturing and large construction projects. He specializes in heavy equipment design, maintenance and operation, construction, and operations analysis for rail car procurement, rail car manufacturing facilities and car repair and locomotive servicing facilities. Mr. Lehman has prepared engineering and economic studies on equipment selection and maintenance, transportation operations, and plant location.

Port Authority of NY & NJ, World Trade Center Transportation Hub, New York, NY

Mr. Lehman is providing support to Port Authority Engineering in the areas of train operations, project phasing, and program cost estimation for the restoration of PATH train service and the rebuilding of the World Trade Center. Mr. Lehman also prepared operating plans and participated in the peer review activity, which determined the preferred location, track layout, and construction phasing scheme for the replacement of the World Trade Center PATH station.

New York State Metropolitan Transportation Authority (MTA),Independent Engineering Consultant, New York, NY

Mr. Lehman served as an independent engineering consultant to the MTA with oversight responsibility for $5 billion of vehicle procurement and new construction. His projects included: New York City Transit Authority (NYCTA) new subway cars program, 1,762 cars, $2.7 billion; Long Island Rail Road (LIRR) electric cars, 326 cars, $785 million; and the LIRR Jamaica Station Improvements. He also contributed to a special study on proposed shop layout revisions to NYCTA's 207th Street Overhaul Shop.

New York State Metropolitan Transportation Authority (MTA), Independent Engineer's Certification Program, New York, NY

Mr. Lehman is responsible for evaluating the adequacy of the maintenance budgets and the efficacy of the maintenance programs for the rolling stock and track departments of MTA's operating agencies. The reviews include: New York City Transit - Car Equipment and Track and Right-of-Way; Long Island Rail Road - Maintenance of Equipment and Maintenance of Way-Track; Metro North Railroad - Engineering Department-Track.

Education:

Master of Management, Transportation, JL Kellogg School of Mgmt, Northwestern University, 1980

B.S., Mechanical Engineering, University of Illinois, Urbana-Champaign, 1972

Registrations:

Professional Engineer, Illinois

Professional Engineer, New Jersey

Employment History:

Hill International, Inc., 2001-Present

Transportation Construction Services, Inc., 2000-2001

Kawasaki Rail Car Inc., 1991-2000

STV/Seelye, Stevenson Value & Knecht, 1987-1990

Cole, Sherman & Associates, 1984-1987

Illinois Central Gulf Railroad, 1972-1984

New Haven Rail Maintenance Facility Expansion, State of Connecticut, Office of Policy and Management, Hartford, CT

Hill International was retained to provide a review and analysis of the New Haven Rail Maintenance Facility Expansion Project. As part of the review of the Connecticut Department of Transportation's proposed expansion and modernization of the facilities, Mr. Lehman was asked to review the scope of the proposed storage yard and rail vehicle maintenance facilities with respect to the maintenance needs of the new technology M-8 Series cars and the existing New Haven Line fleet operated by Metro-North Railroad.

Washington Metropolitan Area Transit Authority (WMATA), Washington, DC.

Mr. Lehman is providing Project Management Oversight (PMOC) for the Federal Transit Administration (FTA) for the WMATA rail car procurement. Oversight includes evaluation of budgeting, rail fleet acquisition and maintenance planning, and issues related to manufacturing, testing and acceptance. His projects include: 5000 Series new cars, 192 cars, $383 million; BREDA Rehabilitation Project (2000/3000 Series), 364 cars, $400 million; and the 6000 Series new cars, 184 cars, including options, $378 million. Mr. Lehman also provided PMO services for the FTA for the Shops/Yards Expansion projects under the WMATA Metro Matters program. Oversight includes monitoring of program management, including budgets and schedules, monitoring construction progress for three projects, Greenbelt Shop, Shady Grove Shop and Brentwood Shop, with a construction cost of $142 million.

Metropolitan Washington Airports Authority, Dulles Corridor Metrorail Extension, Vienna, VA

Mr. Lehman is providing Project Management Oversight for the FTA for the Dulles Corridor Metrorail Extension project that was begun by the Virginia Department of Rail and Public Transit. Services include monitoring; risk analysis; and evaluation of scope, cost, and schedule. The proposed project cost is in excess of $2 billion.

Federal Transit Administration (FTA), Various Projects, Washington, DC

Mr. Lehman provides a variety of Project Management Oversight services to the Federal Transit Administration for various projects, including Central Florida Commuter Rail (Orlando), Utah Transit Authority Draper Rail Transit Extension, Utah Transit Authority Weber County Commuter Rail Project, Utah Transit Authority Mid-Jordan Light Rail Transit Project, South Florida RTA (Tri-Rail Commuter Service), Nashville Regional Transportation Authority Commuter Rail Project, SEPTA Silverliner V Commuter Car Procurement, and the Delaware Transit Corporation Wilmington to Newark Commuter Rail Improvements.

MetroLink, St. Louis, Missouri.

Mr. Lehman participated in an evaluation of design completion and extra work for the Cross County MetroLink Extension light rail transit project.

William F. Krauss, RA

Field Coordinator

Mr. Krauss will serve as Field Coordinator for the Port Authority contract. He is a Registered Architect, has over 25 years of experience in architecture and project management for a broad spectrum of private and public sector projects ranging from new complexes to the integrated rehabilitation and adaptive reuse of existing structures. Projects have included corporate headquarters complexes, residential, educational facilities, libraries, and healthcare facilities. Mr. Krauss has been responsible for project management of design projects and has worked in close association with the Dormitory Authority of the State of New York, State University Construction Fund, and the City University of New York, the New York City School Construction Authority and the New York City Department of Design and Construction. He has also provided construction phase services.

North 11th Street, Brooklyn, NY

Hill International was retained to conduct a due diligence investigation on this property for a developer/contractor. Mr. Krauss performed an in-depth peer review of the architect's drawings as part of the due diligence report on this condominium housing project. His comments addressed a constructability review of the documents and a review of the building footprint for compliance with New York City Zoning Resolutions for height and setback requirements and maximum allowable floor area ratio as they pertained to the quality housing portion of the regulations. His comments also addressed compliance with City code.

U.S. General Services Administration (GSA), Emanuel Celler U.S. Courthouse Modernization, Brooklyn, NY

Hill International is a member of a team providing CM-at-Risk Services during the $80 million modernization of the Federal Courthouse Building. Mr. Krauss was involved early on in the project working as a member of the team that consisted of the GSA, architect, and general contractor and starting with the initial review of the contract documents through the issuance of a 100% construction documents set. He provided comments and value engineering suggestions for the purpose of eliminating potential document coordination issues and thus, minimizing potential change orders.

Dormitory Authority of the State of New York (DASNY), Bronx County Hall of Justice, New York, NY

Mr. Krauss was involved in the final closeout of the building managing a team providing a comprehensive building-wide punch list. He also

Education:

B.S., Architectural Technology, New York Institute of Technology, 1974

A.A.S., Construction Technology, New York City College of Technology, 1962

Registrations:

Registered Architect, New York

Employment History:

Hill International, Inc., 2004-Present

RGA Architects and Planners, 1993-2004

Edward Durell Stone Associates, 1980-1993

The Grad Partnership, 1979-1980

reviewed contract documents for user generated program changes and the coordination of the building furniture allotment.

New York City Department of Design & Construction, Cultural Affairs Unit, On-Call Construction Management Task Order Services, New York City, NY

Mr. Krauss is providing pre-construction and bid and award management for Hill's citywide construction management/construction services on ten cultural facilities valued at over $100 million. He leads the design and constructability review efforts and pre-qualification of construction subcontractors, and manages the bid and award process for over 50 trade subcontractors.

Prior Experience

Various Architectural Design Projects, New York City, NY

Principal and Director of Technical Services. As Principal and Director of Technical Services for a major architectural and engineering firm, Mr. Krauss provided coordination of all production work from design development through construction documents and administration of construction phase services. He has also been responsible for the preparation of design specifications and bid packages. This project involved the construction of an 18,000-SF new building providing a state-of-the-art student and community resource center.

Adaptive Reuse Historic Preservation, New York, NY

Mr. Krauss was involved in the restoration of the Austin Nichols Beaux Arts Mansion on East 79th Street, which in later years served as the French Consulate before being renovated into a corporate office. The project involved the addition of two floors to the existing four-story building along with the total restoration of exterior details, including original stone and wood finishes.

High-End Residential Projects for New York and Overseas Clients. The projects ranged from a 5th Avenue apartment renovation to a suburban estate involving new residences to secure residential compounds with multi-buildings of varying functions.

Various Architectural Design Projects, New York City, NY

Hired initially as a graduate architect for production drawings, Mr. Krauss was promoted to associate and eventually senior associate in the firm's satellite production office. He was involved in corporate, institutional and residential projects both nationally and internationally. He also developed the firm's design and detail standards.

Gurcharan Chopra

Field Coordinator / Traction Power Expert

Mr. Chopra will serve as Field Coordinator on the team for the Port Authority contract. He has over 40 years of extensive experience in electrical engineering in the management of design and construction of industrial and commercial projects. These include power distribution, including standby generation, programmable controllers and control systems; lighting; and fire alarm and electronic security systems. Mr. Chopra's project experience includes transportation, office buildings and commercial facilities, hotels, industrial and manufacturing facilities, wastewater treatment, power plants, and petrochemical facilities. He has also provided construction management and project management oversight for various New York City Agencies' projects.

New York Metropolitan Transit Authority, Independent Engineer's Certification Program, New York, NY

Hill International was awarded a three-year contract to serve as the MTA's Independent Engineer for the certification process. Hill staff will conduct surveys or inspections of the systems and of the inspection, maintenance and repair programs certifying that the programs are: reasonable and appropriate; sufficient reasonably to assure the continued operation of the system; and with operating budget. Mr. Chopra provides ongoing review and audit of the traction power maintenance of the New York City Transit Subways.

Port Authority of NY & NJ, Downtown Restoration Program and Insurance and FEMA Claims for WTC Facilities and PATH, New York, NY

Mr. Chopra performed design review of the new electrical systems being installed and estimating for selected work packages for a fast-track project to restore the rail access to the World Trade Center after the September 11, 2001 damage. He also estimated the Traction Power System replacement costs for Insurance and FEMA claims after the 9/11 damage.

Metropolitan Transit Authority, Independent Engineering Consultant, New York, NY

Mr. Chopra performed oversight of design and construction projects under New York City Transit's electrical and communications program with a total value over one billion dollars. Projects included renovation of old traction power substations by providing solid state rectifiers, new high tension service, switchgear, DC circuit breakers, power transformers, third rail equipment, positive and negative cabling, tunnel

Education:

B.S., Electrical Engineering, Banaras Hindu University, India, 1953

Employment History:

Hill International, Inc., 2001-Present

Transportation Construction Service Inc., 1990-2001

P.L.C. Engineering Services Inc., 1988-1990

Orba Corporation, 1975-1988

Crompton Greaves Ltd., 1965-1975

Hewitt Robins Inc., 1968-1969

General Electric Co. of England, 1953-1968

and station lighting, police radio systems for underground to above ground communications, construction of a rail control center, and 482 communications rooms.

Dormitory Authority of the State of New York (DASNY),Bronx County Hall of Justice, New York, NY

The Bronx Criminal Courthouse Complex is a new facility to house the Supreme Court Criminal Team, which will include 47 courtrooms. The 744,000 square foot, $390 million complex will occupy a 2.5 block site near Grand Concourse and stand 11 stories tall. This facility is one of the largest court complexes in North America. Hill provided full spectrum construction management services to support DASNY. Mr. Chopra served as Electrical Inspector responsible for all electrical work. He researched old electrical change orders, issued rejection letters, and negotiated unfinished change orders. He was also responsible for preparing new estimates for the complete range of electrical work and estimating complex change orders for all electrical systems, including the Security and Antenna Systems, Telecom and Data Fiber and Copper Networks, and the Audio Video System.

GSA, IDIQ Contract Peter Rodino Federal Building, Newark, NJ

The project involved the waterproofing of the outdoor plaza deck, which covers the underground garage basement. Serving as Project Engineer, Mr. Chopra reviewed the design documents and assisted in finalizing the bidding documents for the Fire Alarm System.

GSA, Martin Luther King Federal Court House, Newark, NJ

Hill was retained to review the work of GSA's fire alarm consultant and prepare bidding documents and specifications for a fast-track upgrade of the existing fire alarm system. Mr. Chopra was responsible for the preparation of the bidding documents. Later, when Hill was awarded the Construction Quality management contract, he served as manager. The renovation of the fire alarm system in a fully occupied Federal Courthouse was executed at night and was completed on time and within the contracted price.

GSA, Emanuel Celler United States Courthouse, Brooklyn, NY

Hill is a member of a team led by Volmar Construction, Inc., providing CM-at-risk services during the modernization of this federal courthouse building. Hill's services include project management, project controls estimating and contract administration. Mr. Chopra provided design and constructability review of power, lighting, fire alarm, electronic security, and audio visual systems for this $100 million courthouse renovation project.

GSA, United States Secret Service (USSS) Headquarters Plaza, Newark, NJ

Hill was retained to provide construction management services for the renovation and build out of the 8th and 9th floors of the Headquarters Plaza for the Secret Service. Mr. Chopra provided oversight of the installation of the electrical, fire alarm, electronic security, and communication systems of the leased space for the USSS.

David H. Coffield, PE

Field Coordinator

Mr. Coffield, a Professional Engineer, will serve as a Field Coordinator for the Port Authority contract. He has more than 30 years of experience providing project oversight, program management, value engineering, construction management, claims resolution, and arbitration services on complex projects for public agencies, private owners, architect-engineers, design-builders and contractors. His experience includes extensive work for transportation-related projects, including airport, rail, bus, highway, and turnpike jobs. Mr. Coffield is also a construction arbitrator panelist for the American Arbitration Association and has completed several arbitration assignments.

Port Authority of NY & NJ, Various Project Assignments

Mr. Coffield provided project management consulting services for the Authority's 300-person Engineering Department, including:

- He developed a Department-wide upgrading of Value Engineering (VE) and cost estimating procedures, as well as other related technology initiatives to address the multiple stages of project design development.
- He led Hill's team which also performed cost estimating, VE workshops, and constructability and bidability reviews for several major projects, including a $90 million parking facility and monorail station expansion at Newark International Airport, and the $25 million Battery Park City Ferry Terminal.
- He served as VE facilitator for a 50-person multi-agency peer review to reduce the schedule and budget for the $150 million AirTrain Terminal at Jamaica Station project linking the station with JFK International Airport.
- Following the September 11, 2001 attack on the World Trade Center, Mr. Coffield helped the Port Authority manage technical reviews to facilitate restoration of Port Authority Trans-Hudson (PATH) rail service to Lower Manhattan. He also helped facilitate multi-divisional feasibility reviews of alternative locations and designs for a new permanent PATH station and multi-modal transit hub in the World Trade Center area.
- He supervised several Hill project managers providing services to upgrade the Port Authority's major bridge and aviation facilities, electronic toll collection operations, and its corporate maintenance management system.

Education:

M.S., Civil Engineering - Construction Engineering Mgmt., Oregon State University, 1978

B.S., General Engineering, Oregon State University, 1974

B.S., Geology, Oregon State University, 1974

Registrations:

Professional Engineer, Pennsylvania

Employment History:

Hill International, Inc., 1984-Present

Contract Management Corporation, 1983-1984

MDC Systems Corporation, 1979-1983

Bechtel Power Corporation, 1977-1979

Oregon State Board of Higher Education, 1975-1977

Exploration Logging, Inc., 1974-1975

Federal Transit Administration (FTA) Project Management Oversight (PMO) Assignments,

Mr. Coffield performed reviews of Grantees' organization and staffing, schedules, budget and scope (configuration) management, Value Engineering, cost control, contracts, management information, and quality assurance systems, to help assure that recipients of FTA funding were effectively managing their projects. He prepared routine and exception reports for FTA. Projects included the $520 million Philadelphia Frankford Elevated Line Reconstruction, Sacramento Light Rail Line - rolling stock, line and stations (Phase I), and Los Angeles Metro Rail program. On the Frankford Elevated Line Reconstruction project, Mr. Coffield performed a PMO review of the Value Engineering studies that had been conducted, and performed other studies regarding organization and project control systems.

SEPTA Bus Procurement Project, Philadelphia, PA

Mr. Coffield led Hill's project management team providing project administration, scope/ configuration management, and in-plant and post-delivery inspection and acceptance services for the Southeastern Pennsylvania Transportation Authority's (SEPTA) $400 million, FTA-funded, 400 Advanced Design Bus procurement. The structural shells for the buses and training simulator were manufactured in Budapest, Hungary, and shipped to the United States for final assembly in Alabama. The buses included a global positioning system linked to an automated next stop and public information announcement system with audio and video features, wheelchair access and video surveillance. Unique services included an in-plant pre-acceptance so that new buses could be loaned directly to the Atlanta Committee for the 1996 Summer Olympic Games, before final delivery to a special off-site final acceptance facility in Philadelphia.

New Jersey Turnpike Authority, Turnpike Widening Project, Interchanges 11-15E

As Hill's Deputy Program Manager, Mr. Coffield implemented project management oversight; exception reporting for schedule budget, scope and change control systems, and performed claims analysis and negotiation services for a major widening project for the New Jersey Turnpike. This $570 million, 16-mile program involved multiple design firms and 27 separate major construction contracts for widening of roadway and major structures, including temporary structures, permanent "roll-in" structures, toll facilities, and required extensive right-of-way acquisition, property acquisition, and environmental remediation.

Prior Experience:

Urban Transit Development Corporation (UTDC)

Prior to joining Hill, Mr. Coffield led an Information Technology and Project Management consulting team which implemented a customized management information system and provided related consulting services for management of budget, costs and change orders, design, procurement and the manufacturing process for this Canadian manufacturer of rail transit vehicles. He was similarly involved in the UTDC's manufacture of rolling stock for the Detroit People Mover and the Vancouver ALRT programs.

Karen Mohlenbrok, PE, PMP, LEED AP

Field Coordinator

Ms. Mohlenbrok is proposed as Field Coordinator for the Port Authority contract. She is a civil/construction engineer with more than 20 years of experience in the management, design and construction of a wide range of large scale civil engineering projects. Ms. Mohlenbrok's experience involves design and construction of waterfront structures, including capacity analysis of piers, bulkhead and pile repairs, wind, wave and current analysis, materials handling systems and utilities. Her experience also encompasses design and planning studies for mass transit, highway and bridge structures.

Port Authority of NY & NJ, PM Support for Program Management Division, NJ Airports

Ms. Mohlenbrok was a Project Manager working on Hill's program management services contract for the Port Authority. Projects included:

- North Area Drainage
- North Side High Pressure Water Line
- Backflow Prevention Devices for Buildings
- Building 42 - Install Landing Platforms for Ejector Pumps
- Newark Airport General Sitework Work Order Contract
- Bay Water Pump Station
- Relocation of North Area Fire Alarm Cable and Installation of New Fire Alarm Pedestals
- Terminal A-Replace Concrete Fascia Panel Clip Angles

Prior Experience:

Massachusetts Bay Transportation Authority, Old Colony Commuter Rail Line, MA

Ms. Mohlenbrok was Engineer responsible for the development of horizontal and vertical track alignment for the Old Colony commuter rail line.

Long Island Rail Road, Stony Brook Station Improvements, Stony Brook, NY

Ms. Mohlenbrok was Assistant Project Engineer for detailed design for a new railroad station platform, track realignment, a handicapped access ramp, and at-grade crossing.

Education:

M.S., Civil Engineering, Columbia University, 1996

B.S., Cum Laude, Civil Engineering, Syracuse University, 1985

Coursework, Civil Engineering, City University of London, 1983-1984, 0

Certificate, 4 Hour User/ Erector Supported Frame Scaffold Safety Training, Total Safety Consulting, New York, 2006

Registrations:

Professional Engineer, New York

Project Management Professional

LEED Accredited Professional

Employment History:

Hill International, Inc., 2001-Present

DMJM & Harris, 1993-2001

Han-Padron Assoc., 1990-1993

Sverdrup Corp., 1986-1990

Metro-North Commuter Railroad, Rehabilitation and Upgrade of Grand Central Terminal

As Project Engineer, Ms. Mohlenbrok prepared monthly progress reports and schedules, supervised subconsultants, performed field inspections and testing, developed conceptual design alternatives report, and developed contract documents for new sewage ejector stations, drainage pump stations, piping, electrical controls and electrical power for accommodation of retail expansion and north end access improvement projects at Grand Central Terminal.

New York State Department of Transportation, Long Island Expressway Exits 43-46, Long Island, NY

As Project Engineer, Ms. Mohlenbrok developed design alternatives for a system of parallel one way service and CD roads, including geometry, traffic volume projection, LOS and accident analyses environmental studies, benefit cost analyses, and subconsultant supervision.

New Jersey Department of Transportation, Interstate I-280, NJ

As Project Manager, Ms. Mohlenbrok supervised the preparation of contract documents, project manpower estimates and invoices, negotiated design fees, prepared employee performance evaluations, and coordinated with subconsultants for this four-mile resurfacing, safety improvement, and bridge repair project.

Route 47 Improvements, Port Elizabeth, NJ

Ms. Mohlenbrok was Engineer for improvements to State Route 47 in Port Elizabeth. The project included topographic surveys, interchange improvements, safety improvements, utility relocations, development of construction documents, and obtaining agency permits.

New Jersey Turnpike Authority, Interchange 13 Toll Plaza Widening, NJ

Ms. Mohlenbrok developed horizontal and vertical alignments, drainage design calculations, CADD drawings, and estimates for a roadway and toll plaza widening project at New Jersey Turnpike Interchange 13, including ROW taking and CONRAIL track realignment.

Holland Tunnel New York River Ventilation Building Exterior Lighting

After extensive renovations to the exterior of the New York River Building were completed, exterior lighting was added to the building in the form of metal halide fixtures and high pressure sodium fixtures at the building base. As Project Manager, Ms. Mohlenbrok supervised the installation of lighting mock-up, and installation of permanent exterior lighting at pier level, building base and on roof of building. The lighting improved the aesthetic appeal and highlighted the architectural integrity of the vent building.

Bayonne Bridge Rehabilitation of Deck,Plaza Pavement and Structural Steel

Ms. Mohlenbrok was Project Manager responsible for design and construction support services for $23 million project for replacement of deck on approach slabs, rehabilitation of deck on arch span, replacement of joints, repair of structural steel members, replacement of concrete paving in toll plaza, and landscaping. Fiber reinforcing bars were also installed on the portion of the deck as a test section.

Earle D. Spotts

Field Coordinator

Senior Signal Designer responsible for developing cost estimates, design criteria, and specifications; developing preliminary and final signal circuit design; and inspecting installed signal and related equipment.

New Jersey Transit Hudson-Bergen Light Rail Transit Viaduct, Bayonne, NJ

Senior Signal Designer responsible for developing detail signal construction installation drawings for the installation of signal and related equipment, as part of the 8th Street extension of the light rail transit from 22nd Street to 8th Street.

New Jersey Transit, Portal Bridge Capacity Enhancement, Newark, NJ

Senior Signal Designer responsible for developing block plans, construction estimates, and signal construction staging that are necessary to maintain Amtrak and New Jersey Transit rail services during the dismantling and replacement of an Amtrak portal bridge over the Hackensack River. The enhancements also included the separation of New Jersey Transit and Amtrak passenger rail service in preparation for a new tunnel into 34th Street in New York City.

Connecticut Department of Transportation, Danbury Branch Signalization, Danbury, CT

Senior Signal Designer responsible for providing signal design and circuit plan checks for the signalization of 26 miles of railroad. Other features included upgrading existing highway crossing warning devices and installing a new signal power distribution system to provide solid-state interlocking and electronic track circuits.

City and County of San Francisco, Municipal Transit Authority, Metro East Maintenance Facility, San Francisco, CA

Senior Signal Designer responsible for reviewing submittals, requests for information, contract drawings, and shop drawings for a light rail maintenance facility. Also provided on-site inspection and technical assistance for signal equipment. Provided daily inspection of the DC traction power system, including the installation of the substation and cables, and provided electrical inspection of the facility's electrical system, including the installation of the electrical substation. Completed daily inspection reports and non-compliance report when necessary.

Education:

Electrical and Electronics School, U.S. Navy, 1973

OSHA Outreach Safety Training, 2007

Registrations:

e-RAILSAFE Badge: e-VERIFILE.COM, Inc. - No. [redacted] 2008)

Employment History:

Gannett Fleming
1996 – present

Consolidated Rail Corporation (Conrail)
1977 - 1996

Massachusetts Bay Transportation Authority, Green Line Relocation, Boston, MA

Senior Signal Designer responsible for reviewing submittals, contract drawings, and vital and non-vital software. Also responsible for inspection and on-site technical assistance for locations and signal equipment installed on the Green Line, including one interlocking, three signal locations, and hand-throw switches and derails. The railway relocation was part of Boston's "Big Dig".

Southeastern Pennsylvania Transportation Authority (SEPTA), Frankford Transportation Center, Philadelphia, PA

Signal Inspector responsible for inspecting the installation of two interlockings on SEPTA's Blue Line during the replacement of the Bridge-Pratt Station.

Prior Experience

Consolidated Rail Corporation (Conrail)

Signal Designer with Conrail's Design Group responsible for designing interlockings using standard relay logic for direct control or remote control. Code systems included Union Switch & Signal (US&S) 504, 510, 514; GRS Type K and L; Harmon HLC hardware and software; and GE Series Six programmable controllers hardware and software. Also designed interlockings using vital electronic processors, including Harmon HVLC hardware and software and US&S Microlok and Genisys hardware and software for remote control. Designed pole line replacements using Electrocode 2- and 4-track circuits and Microcode 3-track circuits. Designed highway crossings using Safetran motion sensors 500 to 590 series, Safetran GCP 3000 series, Harmon motion sensors PMD-1, 2, and 3, and Harmon HXP 1 and 3, including complex AXC or DAX operations. Used Harmon HCA hardware and software for monitoring highway-crossing functions. Designed interlocking, cut section, and signal locations using standard DC-coded track circuits and cab signaling.

Professional Affiliations

Full Member of AREMA Committee 36 Highway-Rail Crossing Warning Systems

Awards

Citizen of the Year, Minersville, PA, 2005

Kirk Hunt

Plan and Field Coordinator

Education:

M.B.A., Finance/ Operations, Rutgers, the State University of New Jersey, 1986

B.S., Natural Resource Administration, Michigan State University 1975

Employment History:

Mr. Hunt has more than 28 years of experience in the rail and transit field, with expertise in program management, systems engineering design management, facility design, operations management, and vehicle maintenance. His responsibilities have covered a diverse range of activities, including industrial design and project management for transit stations and rail and bus maintenance facilities, equipment selection and specification development, and O&M procedure development. Mr. Hunt has also managed a central maintenance repair shop servicing a fleet of 2,000 buses and 800 non-revenue vehicles for bus and rail operations. He gained considerable expertise in establishing equipment requirements and preventive maintenance plans, maintenance information systems, construction management, and developing equipment specifications.

MTA/LIRR East Side Access Project (ESA), New York, NY – Systems Engineering Program Coordinator and Force Account Construction Planner, ESA Program Management Team

Mr. Hunt worked on the project to bring LIRR service to Grand Central Terminal for over ten years in positions of increasing responsibility. During design, Mr. Hunt provided leadership and design direction on the Arch Street shop and yard contract. This contract included a shop facility, a 60,000-SF rail maintenance of equipment facility for extraordinary interior cleaning platform and engineering support facilities. Currently, Mr. Hunt serves as the systems engineering program coordinator and force account construction planner for the Queens Area contracts, primarily those contracts affecting the Harold and 'F' Interlockings. The position includes management of the following:

- Construction planning and material coordination for the LIRR and Amtrak force account work, and coordination with third party contracts working within the interlockings.
- Assisting in the development of contract schedules and budget estimates for 3rd party construction.
- Estimates for track and power outage requirements for the execution of force account and third party work, including development of the yearly railroad track outage schedule and budget. Mr. Hunt chairs the 8-week look-ahead and weekly construction meetings between the railroads, 3rd party contractors and the project.

- Overseeing the rail simulation programs, coordination and design review management of all systems, including track, traction power, signals, and communications.

NYCT 207th Street Overhaul Shop Rehabilitation, New York, NY

Lead Industrial Engineer - Responsible for the design and construction phase services for the complete rehabilitation of this major car overhaul facility.

SEPTA 69th Street Shop and Yard Improvements Project, Philadelphia, PA (1997-1998)

Industrial Design/Equipment Specialist

WMATA F-11 Line Section and Shop, Washington, D.C.

Industrial Design/Equipment Specialist - Responsible for the functional design layout and equipment specifications for this new heavy rail maintenance shop.

- NJ Transit Plainfield Station High Level Platforms and Station Improvements, Plainfield, NJ (1997-1998) – Project Designer
- NJ Transit Morris & Essex Lines Station ADA Compliance Program, NJ (1996) – Deputy Project Manager
- NJ Transit Signage Program at 25 Stations, NJ (1996)
- NJ Transit Long-Range Plan and Public Transportation Management Systems, New Jersey (1994-1996)
- NJ Transit Northern Bus Maintenance Facility, New Jersey – Industrial Engineer
- NJ Transit Egg Harbor Township Bus Maintenance Facility, Egg Harbor, NJ (1992-1997) – Deputy Project Manager
- NJ Transit Greenville Bus Maintenance Facility, Jersey City, NJ (1991-1994) – Project Manager
- NYCT Fresh Pond Bus Maintenance Facility, Queens, NY (1988-1994) – Project Manager
- NYCT Fresh Pond Bus Depot, Queens, NY (1988-1994) – Project Manager
- Delaware DOT Master Plan Study, Delaware (1993-1994) – Bus Maintenance/Operations Specialist
- NJ Transit Rail Station Accessibility, Newark, NJ (1993-1994) – Assistant Project Manager
- NYCDOT Southeast Brooklyn Facility, Brooklyn, NY (1991-1993)
- SEPTA Media-Sharon Hill Line (MSHL) and Norristown High Speed Line (NHSL) Shops, PA (1992-1993) – Facility Design Manager
- NYCT Kingsbridge Bus Depot, New York, NY (1991-1993) – Project Manager
- NJ Transit Bus Maintenance Operations, Newark, NJ (1984-1989) – Former Superintendent of Maintenance

Rock Miller

Planning Coordinator

Mr. Miller has 15 years of planning and operations experience in mass transit and in the technology industry. He has particular expertise in capital infrastructure planning, cost analysis, and budgeting, grants management, capital project benefits and economic analysis, project financial analysis, and management systems and processes. Mr. Miller's professional experience includes the following representative projects:

MTA New York

As Assistant Director, Capital Program Budgets, Mr. Miller directed the work of a six-person headquarters staff in planning, administration and oversight of New York City Transit's $2 billion capital program, and implemented innovative capital cost analysis methods in a number of transportation planning studies and projects. He developed and managed condition-based capital needs assessment and prioritization methodology for rail infrastructure renewal, managed ongoing needs assessment and capital plan development process in partnership with MTA operating agencies, enhanced the agency's technical methods for benefit-cost analysis, introduced financial risk analysis concepts for program-level planning and oversight of project budgets, researched and developed multi-factor evaluation standards for East Side Access and other MTA long-range network expansion projects, supplied capital planning expertise to an economic study assessing the long-term regional economic benefits of mass transit investment, conducted strategic oversight of NYC Transit's most important technology-based capital initiatives for MTA executives, and upgraded capital program and budget management procedures in coordination with replacement of project budgeting and grant management systems.

NJ Transit Monmouth-Ocean-Middlesex DEIS

As Transportation Planner, Mr. Miller managed the development of the project's capital cost estimates; and developed tools and methodologies for managing cost estimates and analyzing project contingency requirements. He also developed tools and techniques for rapidly defining and evaluating project cost reduction and phasing approaches.

SCAG: High-Speed Ground Transportation Study

As Transportation Planner, Mr. Miller developed project capital cost estimates for maglev and high-speed rail modes along freeway and rail corridors to support decision-making about high-speed rail by the Southern California Association of Governments.

Education:

M.U.P., Urban Planning, New York University, 1993

B.A., History, magna cum laude, Carleton College, Phi Beta Kappa, 1984

Employment History:

SYSTRA Consulting, Inc., 2007 – present

City of New York Department of Housing, 2005 – 2007

ReefEdge, Inc., 2000 – 2004

Institute for Civil Infrastructure, 1999 -2000

NJ Transit Access to the Region's Core FEIS

As Transportation Planner, Mr. Miller managed the creation of the project administrative record to be turned over at the completion of the FEIS. He developed methodologies and tools for defining and tracking environmental commitments, and analyzing public comments.

Amtrak Northeast Corridor Infrastructure Master Plan Phase II

As Transportation Planner, Mr. Miller created an analysis of potential economic benefits of delay reduction and emissions reduction resulting from increased rail market share in the Northeast Corridor. He developed a capital needs assessment framework for the state-of-good-repair and normal replacement of Amtrak's capital program.

NJ Transit Restoration of West Trenton Line Passenger Rail Service

Mr. Miller developed processes and tools for tracking and analyzing public comments.

MTA New York: Integrated Electronic Security System, Command, Communication and Control System

As Transportation Planner, Mr. Miller developed user training modules for C3 console operators.

City of New York, Department of Housing Preservation and Development

As Former Director, Technology Initiatives, Division of Housing Finance, Mr. Miller directed the agency's technology program for automating the affordable housing finance operations of its Office of Development to reflect best-practices operational concepts. He managed the development of a common decision-processing model for housing loan approval across multiple programs.

Monica Barrow

Plan Coordinator

Ms. Barrow has 25 years of experience in transportation planning and project management, including 13 years in capital planning and capital program oversight for commuter rail and transit programs. At the Metropolitan Transportation Authority, Ms. Barrow managed various New York City Transit capital program activities, including assessment of long-term capital needs, project prioritization, and project funding. At the Long Island Rail Road, Ms. Barrow was responsible for long-term capital planning, grant management, and other capital budget functions. Ms. Barrow expertise includes planning studies, project scope development, and adherence to scope and budget during implementation. Ms. Barrow's professional experience includes the following representative projects:

Lower Manhattan Development Corporation Lower Manhattan Airport and Commuter Access Alternatives Analysis, New York, NY

As Deputy Project Manager, Ms. Barrow was responsible for the fast-track assessment of the most appropriate strategy for improving transportation between Long Island and Lower Manhattan and JFK International Airport and Lower Manhattan. The Metropolitan Transportation Authority, Port Authority of New York & New Jersey, and City of New York Economic Development Corporation were partners in the study.

Metropolitan Transportation Authority (MTA) Lower Manhattan-Jamaica/JFK Transportation, New York, NY

As Deputy Project Manager, Ms. Barrow was responsible for the alternatives analysis/environmental impact statement focused on improving transit commuters and airport passengers between Long Island, JFK International Airport, and Lower Manhattan. The Lower Manhattan Development Corporation, Port Authority of New York & New Jersey, and City of New York Economic Development Corporation were partners with MTA in the study.

Amtrak Northeast Corridor (NEC) Infrastructure Master Plan, Phase II

As Project Manager, Ms. Barrow led the identification and documentation of long-term infrastructure needs for the NEC totaling $50 billion. She implemented the framework developed in Phase I for forecasting future-year service levels, comparing those service levels to future year infrastructure, and identifying physical improvements needed to

Education:

M.B.A., Management, New York University, 1992

B.S., Public Policy & Management/ English, Carnegie Mellon University, Pittsburgh, PA, 1985

Employment History:

SYSTRA Consulting, Inc., 1998 – present

MTA, 1992-1998

LIRR, 1985 – 1992

increase capacity and reliability. Major responsibilities include meeting facilitation, data gathering, analysis of ridership, service, and capital project data, and documentation. Ms. Barrow's team includes SYSTRA planners, operations analysts, and engineers, as well as representatives from the railroads and states that provide intercity, commuter, and freight services between Boston, Massachusetts and Richmond, Virginia.

Amtrak Northeast Corridor Infrastructure Master Plan, Phase I

As Project Manager, Ms. Barrow led the development of long-term infrastructure needs for the NEC. Phase I included the collection, synthesis and assessment of service levels, train volumes, demographics, ridership forecasts, service plans, reliability, and capacity; development of the infrastructure analysis framework; documentation of operating and capital investment conditions; and synthesis of consolidated agency and rail operator expectations for the future.

MTA New York, NY

Ms. Barrow was the Deputy Director, Capital Program Management Department and Assistant Director, Capital Program Management Department. She was responsible for capital program development, capital program implementation and capital program funding. She developed multi-year funding plans; managed use of funds and compliance with resource agency requirements.

LIRR, Jamaica, NY

Ms. Barrow was the Assistant Director, Capital Budget and Manager, Capital Budget.

Frank A. Colucci, PMP

Plan Coordinator

Mr. Colucci will serve as Plan Coordinator for the Port Authority on-call contract. He has over 30 years of diversified experience on a variety of projects in transportation industry, involving rail and transit. He has established a track record demonstrating his ability to manage, motivate, direct and lead project teams to achieve aggressive milestones within tight budgets and compressed time frames while effectively utilizing company resources to meet or exceed all project goals. Mr. Colucci also has a broad range of knowledge and expertise in cost engineering, estimating and project controls; contract administration; change order preparation and negotiation; quality assurance; total quality management; claims management; and pressure vessel and piping stress analysis.

Port Authority of NY & NJ (PANYNJ), Downtown PATH Restoration Project

Mr. Colucci was assigned as a Project Manager on Hill International's project for the Port Authority to restore rail transit service between New Jersey and lower Manhattan. He had overall responsibility for the preparation of replacement-in-kind estimates to support the FEMA/ Insurance reconciliation process pertaining to the World Trade Center disaster losses, as well as for the preparation and reconciliation of check estimates for work packages associated with the temporary World Trade Center PATH Station, Hudson River Tunnels E&F and the PATH Exchange Place Station. Mr. Colucci also provided overall program management and technical support services and was responsible for facilitating completion of various technical reports and review of design work order packages, managing and meeting schedule commitments, monitoring project expenditures and deliverables, and tracking and maintaining internal budgets.

Metropolitan Transportation Agency (MTA) and Long Island Rail Road, Long Island Rail Road (LIRR) Estimating Services, NY

Mr. Colucci is serving as Project Manager on this task order contract, which is currently providing estimating services for the LIRR's 2005-2009 Capital Program Infrastructure Improvements Program.

Metropolitan Transportation Agency (MTA), Independent Engineer's Certification Program, NY

Mr. Colucci is currently serving as the Project Manager of the team performing the monitoring and analysis of the MTA Bus Company's maintenance, inspection, and repair programs. The project's goal is to

Education:

M.B.A., Business Administration, Wagner College, 1988

M.E., Mechanical Engineering, City College of New York, 1977

B.E., Mechanical Engineering, City College of New York, 1972

Registrations:

Project Management Professional

Employment History:

Hill International, Inc., 2001-Present

Transportation Construction Services, 1997-2001

Stone and Webster Engineering Corporation, 1987-1997

Gibbs & Hill, Inc., 1979-1987

Curtiss Wright Corporation, 1977-1979

Stone and Webster Engineering Corporation, 1975-1977

Curtiss Wright Corporation, 1972-1975

determine whether the programs are adequate to maintain the bus fleets in an overall "state of good repair."

Metropolitan Transportation Agency (MTA), Maintenance Certification Consultant, NY

Mr. Colucci is currently serving as Project Manager of the team performing the monitoring and analysis of the New York City Transit Authority (NYCT), Long Island Rail Road (LIRR), and Metro-North Railroad (MNR) maintenance, inspection, and repair programs. The project goal is to determine whether the programs are adequate to maintain the transit systems, and associated mechanical equipment such as chillers, cooling towers, and elevators and escalators, in an overall "state of good repair." Mr. Colucci personally performs the review and certification for NYCT stations, mechanical equipment and bus fleets; and MNR stations, including Grand Central Terminal; and the LIRR stations.

New York City MTA Capital Projects

Mr. Colucci performed five years of project management/construction oversight on New York City MTA capital projects exceeding $2 billion. He quickly became recognized for rendering qualified, innovative recommendations and solutions which enabled those agencies to effectively manage and facilitate construction completion on various projects in their capital program. Under Hill International's Independent Engineering Consultant (IEC) contract with the MTA, Mr. Colucci provided oversight on the following programs and projects.

- Major Station Reconstruction Program, New York City Transit Authority
- Atlantic Terminal Improvements Project Long Island Rail Road (LIRR)
- Station Reconstruction Program, Metro-North Railroad
- Yards and Maintenance Facilities, Metro-North Railroad Shops and Yards
- Elevator and Escalator Rehabilitation Program, New York City Transit Authority
- Public Address/Customer Information (Phase I and Phase II) Rehabilitation Program, New York City Transit Authority
- M-7 Electric Multiple Unit Procurement, Long Island Rail Road and Metro-North Railroad

Prior Experience:

New Jersey Transit Corporation (NJTransit), Various Projects, Newark, NJ

Before joining Hill International, Mr. Colucci provided engineering and design services for a variety of multi-disciplined task assignments for NJTransit over three years. The total cost of the projects was $6 million.

J. William Vigrass

Plan Coordinator

Mr. Vigrass will serve as a Plan Coordinator for the Port Authority contract. He is a Project Manager will Hill International with more than 50 years of experience in planning, maintenance management, and project management oversight. He was recently selected to a blue ribbon panel by the National Transportation Commission. His ideas for revamping the US rail system are currently under review by congress. He has an extensive background in rail and transit and worked for the Port Authority for 20 years.

Port Authority Trans-Hudson Corporation, PATH Downtown Restoration, New York, NY

Mr. Vigrass was a member of the team planning the restoration of PATH rapid transit service to the World Trade Center (WTC). His assignment was to prepare a report that describes damage and what will be done to restore service. The report included an estimate of the costs to replace facilities in kind that were destroyed or damaged by the events of September 11, 2001, as well as to upgrade the facilities to contemporary standards. Included is restoration of the World Trade Center PATH station for temporary use until a new station can be built.

Port Authority Transit of Allegheny County, Federal Transit Administration.

Project Management Oversight Consultant to FTA Region III for capital projects of the Port Authority Transit of Allegheny County, Pittsburgh, Pennsylvania. Included were reconstruction and modernization of two bus garages, planning for an extension of the East Busway, design and planning for the Airport Busway, and reconstruction of the Mount Washington streetcar-bus tunnel for light rail/bus combined use.

Delaware River Port Authority, PATCO Rapid Transit Extension

As Senior Technical Advisor, Mr. Vigrass serves on a team undertaking the PATCO Extension Assessment study which includes rail rapid transit, modified rapid transit (at grade), and light rail within the Gloucester Corridor, and an existing railroad alignment via Woodbury to Glassboro, NJ. The study also includes a study of shuttles to connect PATCO stations with the riverfronts.

Metropolitan Transportation Authority (MTA), M-7 Car Procurement, New York, NY

Mr. Vigrass was a member of the Independent Engineering Consultant (IEC) team reporting to the Capital Projects Oversight Committee of

Education:

M.B.A., Economics, Case Western Reserve University, 1963

B.A., Economics, Allegheny College, 1952

Graduate Coursework, Administration, Ohio State University, 1965-1968

Professional Program, Urban Transportation, Carnegie Mellon University, 1975

Coursework, Project Management, The Engineers Club of Philadelphia, 1989

Master of City and Regional Planning Studies, Urban Planning and Policy Development, Bloustein School of Planning & Public Policy, Rutgers Univ., 2007

Employment History:

Hill International, Inc., 1988-Present

Port Authority Transit Corp., 1968-1988

Battelle Memorial Institute, 1963-1968

Union Pacific Railraod Company, 1955-1963

Eric Railroad Company, 1952-1955

MTA. His assignment was to follow the construction and commissioning of the M-7 car fleet being built by Bombardier Transportation, Inc. for the Long Island Rail Road and Metro-North Railroad, and to report and comment on developments. In particular, the IEC team was to identify problems and, when appropriate, suggest solutions.

Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, PA

Mr. Vigrass was Project Manager for the development of a Request for Proposals for preliminary engineering for SEPTA's proposed Schuylkill Valley Metro Rail project that would connect Philadelphia and Reading, Pennsylvania, a distance of 62 miles.

Federal Transit Administration, Salt Lake City Light Rail Project,

Mr. Vigrass was a member of the Hill team performing Project Management Oversight (PMO) to the Federal Transit Administration for the Salt Lake City Light Rail Transit project. He provided oversight for the construction and commissioning of a 33 car fleet. He followed construction and commissioning of an additional order for seven cars.

New Jersey Transit, Burlington-Gloucester Corridor Major Investment Study,

Deputy Project Manager of the Burlington-Gloucester Corridor Major Investment Study for New Jersey Transit Corporation. Included was an evaluation of heavy rapid rail, at-grade rapid rail, light rail, commuter railroad and busway alternatives in the Philadelphia-Camden-Mt. Holly and Glassboro corridors. Capital cost estimates for each mode in each of the two corridors was provided by Hill staff under Mr. Vigrass' supervision.

New Jersey Transit, Burlington-Gloucester Corridor Assessment Study,

Project Manager of the Burlington-Gloucester Corridor Assessment Study; Cost Estimate, for New Jersey Transit Corporation in which several modes were evaluated: heavy rail, light metro, light rail and busways. Order of magnitude capital costs were provided by Hill's estimating staff under Mr. Vigrass' supervision

Federal Transit Administration, Norristown High Speed Line Reconstruction,

Project Management Oversight Consultant for the reconstruction program in suburban Philadelphia for the Federal Transit Administration. Procurement of 26 new rail cars was included in the reconstruction program. He participated in design reviews and monthly production meetings, track testing and commissioning. He also stimulated redesign of the signal system.

New York Metropolitan Transportation Authority (MTA), Safety Investigation

Mr. Vigrass served as Vehicles Topic Coordinator for the inspection of a sample of cars at each car barn and shop, evaluating whether they were in a "state of good repair" or not.

Market-Frankford Car Procurement, SEPTA.

Project Director, Responsibility Review of Bidders for the M-4 Market-Frankford Car Procurement for Southeastern Pennsylvania Transportation Authority, Philadelphia, Pennsylvania, 1993. This study cleared the way for SEPTA to award the contract for 220 cars.

Danuta Gryszko, PSP

Plan Coordinator

Ms. Gryszko will serve as Plan Coordinator for the Port Authority contract. She has over 14 years of professional experience in planning, scheduling, expediting, and engineering and construction management for power plants, bridges, tunnels, schools, hospitals, highways and parks. Ms. Gryszko is organized, focused and skilled at implementing multiphase projects simultaneously, and has hands-on experience in CPM scheduling. Ms. Gryszko is skilled in Primavera, Sure Track, Claim Digger and Microsoft Project software packages. She is fluent in Polish and has a working knowledge of Russian and Ukrainian.

New York City Department of Design and Construction, Renovation and Rehabilitation Projects for City-Owned Buildings and Structures, New York, NY

Ms. Gryszko completed the economic analysis to determine the cost benefit analysis of implementing a PLA for eight DDC renovation and rehabilitation projects.

Office of General Services (OGS), New York State Department of Labor, Schermerhorn Street State Office Building, Brooklyn, NY

Ms. Gryszko completed the economic analysis for the Feasibility Study to determine the cost benefit of implementing a PLA for the renovation of the existing building.

Lenape Regional High School District, Shawnee High School, Shamong, NJ

The Lenape Regional High School District is undertaking a $28.8 million project to renovate and expand the existing 1972 building. The work includes a classroom addition, auditorium addition, extensive renovations, and full replacement of the boilers and electrical switchgear. Ms. Gryszko developed the baseline project schedule with the work divided into six phases. During construction, she reviewed the coordinated CPM schedule, submitted by the five prime contractors, for compliance with the milestones and to ensure that completion will be on time.

Woodbridge Township Public Schools, Woodbridge Township Schools Program, Woodbridge, NJ

The Woodbridge Township Public Schools implemented a program to renovate and expand each of their 25 school buildings. The scope of work included roof and window replacements, HVAC system upgrades, and classroom additions to six schools. As Scheduler, Ms. Gryszko

Education:

M.S., Mechanical Engineering, New Jersey Institute of Technology, 2008

Coursework, Physics, M. Copernican University, Torun, Poland, 1983-1989

Coursework, Mechanical Engineering, New Jersey Institute of Technology, 2004

Registrations:

Planning and Scheduling Professional

Employment History:

Hill International, Inc., 2003-Present

Burns and Roe Enterprises, 2000-2003

Avila Consulting, 1996-2000

developed the baseline program schedule, with the work divided into 12 bid packages with multiple schools within most of the bid packages. Detailed preliminary construction schedules were prepared for each bid package and each school within the package as the basis for determining milestone dates for liquidated damages. During construction Ms. Gryszko reviewed the contractor's schedule submissions for compliance with the milestones and to ensure that completion would be on time.

New Jersey Schools Development Authority (NJSDA), New Jersey Schools Construction and Renovation Program, NJ

Hill International is providing program management for new construction, renovations and additions to multiple schools in Region 6, the largest PMF contract issued by the New Jersey Schools Development Authority, with overall responsibility from master planning through construction management. As Scheduler, Ms. Gryszko established the WBS, develops and maintains CPM schedules and updates, and analyzes progress. She is responsible for analysis of baseline changes, providing up-to-date analysis of cash flow and manpower projections, running weekly and monthly reports, and preparing impact analysis. Ms. Gryszko is responsible for preparing delay analysis of each project as part of change order reviews.

Millstone Township Schools Program, Millstone, NJ

The Millstone Township School District is implementing a program to build a new middle school and renovate their two existing schools. Hill was retained to provide construction management from pre-referendum through the construction phase. Ms. Gryszko developed the WBS and all related coding structure. She then prepared the project baseline schedule and established the project milestones.

Matawan-Aberdeen Schools Program, Matawan, NJ

Matawan-Aberdeen Regional School District implemented a renovation and expansion program at each of their six schools which included roof and window replacement, HVAC system upgrades, classroom expansion at the high school, and additions of classrooms and gymnasium to the middle school. Hill was retained to provide construction management from the pre-construction through the construction phase. Ms. Gryszko developed the project baseline schedule and worked on the time-phased allocated work.

Prior Experience

Various Projects, Project Control Engineer

Serving as Project Control Engineer, Ms. Gryszko maintained the project WBS and related WBS Dictionary. She prepared time-phased and resources allocated schedules, prepared performance analysis for the project using budget and schedule viewpoint, and provided up-to-date analysis of cash flow and resource requirements. Ms. Gryszko also analyzed baseline change proposals and engineering change proposals from the cost and schedule viewpoint.

Edward J. Fox

Plan Coordinator

Mr. Fox will serve on the team as Plan Coordinator for the Port Authority contract. He has over 35 years of progressive experience in planning, engineering, construction and management on a broad cross section of capital improvement programs, much of it in the public sector. Mr. Fox's assignments have included land development, educational buildings, housing and commercial projects. These assignments required the application of engineering, managerial and financial skills, as well as coordination and liaison with client and team members to solve complex problems.

Port Authority of NY & NJ (PANYNJ), World Trade Center Station Reconstruction, New York, NY

Hill is providing program management services in connection with the planning, design and construction of the new World Trade Center Transportation Hub, including the temporary PATH Terminal, the new permanent PATH Terminal, and four major interrelated office towers. Mr. Fox is responsible for management procedures and manuals, monthly progress reports, scheduling, and financial planning.

New York Metropolitan Transportation Authority (MTA), New York, NY

Mr. Fox was a member of the Hill independent consultant oversight team for the MTA, which has reviewed and prepared reports on the progress of bus depots and maintenance facilities, including several design-build facilities. He was responsible for oversight of design and construction of three bus maintenance and garage facilities and a major subway terminal. In addition, he oversaw various structural projects for the New York City Transit Authority subway system, including the design of a new multi-modal facility at Coney Island, New York. In this capacity, Mr. Fox also performed a number of continuing reviews of contractor developed Primavera CPM schedules.

Prior Experience:

Light Rail System, Dallas Area Rapid Transit System, (DART), Dallas, TX

Mr. Fox compiled and prepared the project closeout documentation packages for DART's Light Rail System, including the Fare Collection, Signals and the Communications and Central Control contracts.

Education:

M.S., City and Regional Planning, Rutgers University, 1970

B.S., Civil Engineering, New Jersey Institute of Technology, 1964

Employment History:

Hill International, Inc., 2001-Present

Transportation Construction Service, Inc., 1992-2001

High-Point Schaer, 1988-1992

Candeub, Flessig & Assoc. (Former Hill subsidiary), 1968-1988

US Air Force, 1964-1968

General Services Administration. United States Federal Courthouse, Brooklyn, NY

Mr. Fox was the Document Controls Engineer for this $200+ million project. The project included the separation of an existing courthouse and the asbestos abatement and demolition of a Federal Office Building on the site of the new construction. Also completed were a new, temporary entrance, a total change over to new electrical transformers, and construction of temporary parking in a city park to ensure the uninterrupted operation of the existing Brooklyn Federal Courthouse. He participated in the review of the project through the design and bidding phase. Mr. Fox also prepared the field office facilities and procedures for the start of the construction phase.

General Services Administration, Indefinite Quantity Contract, Region 2.

Mr. Fox assisted with Contract Executive duties for the conclusion of the ongoing three year indefinite quantity contract. This work included contract administration during the construction phase of the latter task orders.

Confidential Surety Client, Multiple Individual Building Projects, NY, NJ, and PA

Mr. Fox was the Project Manager for 42 individual building projects which included schools, hospitals and office buildings, spanned a three-year period; and had an aggregate construction value of $60 million. This work involved the analysis, evaluation and completion of projects in various stages of construction after the default of a contractor. Mr. Fox's responsibilities included preparation of necessary construction documents to re-let 12 projects, completion and close-out of another 30 projects, full contract administration of ongoing contracts to enable final completion, and periodic client reporting.

Resolution Trust Corporation, Market Station Center, Leesburg, VA and Residential and Commercial Buildings, Provincetown, MA

Mr. Fox provided project management for two environmental assessment assignments. The Market Station Center was a historic, mixed-use development, consisting of office buildings and commercial space. The second project involved residential and commercial buildings.

Thomas H. Wilson, Jr., PSP

Plan Coordinator

Mr. Wilson, a Planning and Scheduling Professional, will serve as a Plan Coordinator for the Port Authority contract. He has more than 25 years of engineering and construction management experience in educational facilities; transportation, railway, and vehicular bridges; medical facilities; wastewater; and structural buildings. He has developed, maintained, and monitored various projects extensively utilizing Primavera Project Planner scheduling and Project Management System, change order review, and cost estimating. Mr. Wilson's responsibilities have included civil and structural inspections, project quality control, and value engineering. He has worked on various assignments developing schedules for presentations, new project baselines, and technical support for existing facilities. His background also includes claims analysis.

Woodside Station Rehabilitation, Metropolitan Transportation Authority (MTA) and Long Island Railroad (LIRR), New York

Mr. Wilson managed the project cost loaded distributed control system (DCS) schedule supplied by the contractor. The project included demolition of platforms and installation of new ones, installation of five new elevators, expansion of the mezzanine level, replacement of the existing escalator, platform relighting and new electrical services, installation of tactile warning strips, relocation and construction of four stairs, removal of concrete, bridge widening, new pedestrian ramps and signage, and removal of lead paint and minor amounts of asbestos. His duties also included preparation of in-depth monthly reports for the construction manager, along with direct reporting to the LIRR of the numerous changes made by the contractor during the updating process.

Hudson-Bergen Light Rail Transit System (LRTS), New Jersey

Utilizing Primavera P3, Mr. Wilson was the scheduling engineer for this multi-discipline design effort, working with team engineers to develop the design schedule. His duties involved meeting with various team engineers, assimilating the information, transforming it into scheduling data, processing it, and then reviewing it with team leaders for correctness and conciseness. Upon finalization, the completed computerized baseline schedule was submitted to the client for additional input or comment. All team engineers and the externally concerned parties updated the project design schedule monthly. This information was also provided to the team in the form of a monthly status report, with a

Education:

B.S., Construction Engineering Technology, Spring Garden College, 1980

Registrations:

Planning and Scheduling Professional

Work History:

Hill International, Inc., 2008 - present

Shaw Stone & Webster, 2006 - 2008

Jacobs Facilities, 2000 - 2006

Skanska USA, 1997 - 2000

Promatech, 1994 - 1997

Don Todd Associates, 1981 - 1994

3 1/2" diskette provided to the client for their review. This provided the team with areas of concern and actions required to maintain or accelerate in order to meet the mandatory completion date.

Manayunk Bridge, Southeastern Pennsylvania Transportation Authority (SEPTA) Philadelphia, PA

Mr. Wilson provided value engineering, cost estimating, CPM scheduling, and other design support services for the remedial A/E design for this historic preservation project.

Manayunk Bridge, Southeastern Pennsylvania Transportation Authority (SEPTA) Philadelphia, PA

Mr. Wilson provided supplemental inspection and conformance services for this historic preservation project.

Railworks Main Line Bridge Improvement Project, Phase II, Southeastern Pennsylvania Transportation Authority (SEPTA) Philadelphia, PA

Mr. Wilson's duties included quantity and quality control of materials and workmanship in place for compliance with contract documents and inclusion in daily reports. The daily inspections included demolition of existing concrete structure and associated bridge span, remedial work, reinforcement, placement, and concrete placement. Mr. Wilson also performed inspection of the associated steel girder and appurtenances placement installed shear bolt quantity and quality review.

Signal and Cable Replacement R6 Line, Southeastern Pennsylvania Transportation Authority (SEPTA) Philadelphia, PA

Mr. Wilson was responsible for daily inspections of cable replacement, cribbing, signal cable houses, and proper placement of new signal crossings.

Broad Street Subway Signal Modernization, Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, PA

Mr. Wilson was involved in the cost estimating and scheduling of the new signal system, which involved upgrades to a car's signal system.

Market Street Bus Maintenance Facility Rehabilitation, New Jersey Transit, Paterson, NJ

Mr. Wilson was involved in the intense period of design activity (charrette) that started this project, and then provided additional cost estimating and value engineering services.

R. Gene Baggs, PE

Plan Coordinator

Project Manager responsible for lump-sum and cost-plus/design-build projects, involving planning, scheduling, cost control, contract negotiation, and administration.

New Jersey Transit, Maintenance and Storage Facility, Lyndhurst, NJ

Project Manager for the proposed conversion of an existing distribution warehouse to a bus maintenance and storage facility to house 170 coach buses. Work includes site and geotechnical evaluations, program development, conceptual design, capital cost estimates, and construction schedule.

MTA New York City Transit/Granite-Halmar, Grand Avenue Bus Depot and Central Maintenance Facility Design-Build, Queens, NY

Design Manager for a multistory transportation complex with over 800,000 square feet of space. The bus depot is located on the first floor and has a capacity of approximately 200 buses. Bus depot offices are located on the first-floor mezzanine level. The Central Maintenance Facility occupies the second floor and includes several unique systems, such as four state-of-the-art paintbooths with zero volatile organic compound (VOC) emissions.

Prior Experience

The Port Authority of NY & NJ, Electrical Task Order Contract, NY and NJ

Project Manager responsible for general engineering services for various assignments related to bridges, tunnels, and JFK, LaGuardia, and Newark Airports. Work entailed new electrical system designs, lighting enhancements, power upgrades, and security systems that addressed all aspects of usage. Also upgraded and improved the existing electrical systems and subsystems and electrical distribution equipment and systems, installed new power distribution systems, and upgraded and replaced existing computer-based communications and control systems.

MTA New York City Transit, Indefinite Quantity Contracts, New York, NY

Project Manager responsible for providing engineering support for civil/structural, geotechnical, mechanical, electrical, subway station and bus operations, signal and trackwork, tunnels, and telecommunications.

Education:

B.E., Electrical Engineering, 1959, Rensselaer Polytechnic Institute

Registrations:

P.E: New Jersey - No. [redacted] (1976)

Employment History:

Gannett Fleming
2004 - Present

Burns and Roe Enterprises, Inc.

New Jersey Transit, General Engineering Contract, NJ

Project Manager responsible for providing multi-disciplinary architectural/engineering services for shops and yards, bus depots, rail stations, park-and-ride lots, administrative offices, and maintenance facilities.

MTA Bridges and Tunnels, Indefinite Quantity Value Engineering Contract

Project Manager responsible for performing value engineering studies for facilities, bridges, highways, and tunnels. Each task was not to exceed $75,000.

MTA New York City Transit, Kingsbridge Bus Depot, Manhattan, NY

Project Manager responsible for the $68 million design of two separate buildings: one for bus maintenance and the other for bus storage, including three fuel stations, a fare collection system, bus paint booth, bus washing, 17 hydraulic bus hoists, and two bus pits.

Amtrak/New Jersey Transit, Sunnyside Yard Static Frequency Converter Power Substation, Long Island, NY

Design Reviewer and Construction Manager responsible for overseeing the construction of a $30 million rehabilitation. The substation was designed to take 138 kV, 60-cycle, 3-phase power from Con Edison and deliver 25 cycle, 12 kV, 1-phase traction power to the railroad. Design review included load studies, harmonic analysis, short-circuit analysis, and protective relay coordination.

MTA New York City Transit, Concourse Barn and Yard, New York, NY

Deputy Project Manager responsible for designing the rehabilitation of a multi-million-dollar project that included a subway maintenance facility.

New Jersey Transit, General Engineering Contract, NJ

Project Manager responsible for a multi-disciplinary architectural/engineering services contract for bus depots, rail stations, and shops and yards.

Edward C. Breslin

Plan Coordinator

Senior Signals Designer involved in the management, design, construction, operations and maintenance, and construction management of communications and signal systems, including security and access control, on commuter rail, heavy rail, and light rail transit systems. Experienced in the coordination of systems work, including signals, communications, control centers, traction power, and track, with various electrical, architectural, civil, and structural work.

Prior Experience

Manager of Signals and Train Control responsible for the development of third-party construction bid documents, including signal and communications design and the coordination of systems work with various electrical, architectural, civil/track, and structural work. Projects included:

- Access to the Region's Core, Trans-Hudson Express Passenger Rail Tunnel, New Jersey Transit
- New Haven Line prewired signal house, MTA Metro-North Railroad
- New Haven Line cable installation, MTA Metro-North Railroad
- Hudson Line cable installation, MTA Metro-North Railroad
- University Line extension, Metropolitan Transit Authority of Harris County
- Washington Union Station, Burnham Place development, Washington Metropolitan Area Transit Authority
- Journal Square Yard C improvements, Port Authority Trans-Hudson.

Southeastern Pennsylvania Transportation Authority, Frankford Elevated Reconstruction, Automatic Train Control, Philadelphia, PA

Project Manager and Project Designer responsible for the completion of the design and construction of a new cab signal system on the Market Frankford Line. Responsibilities included signals and train control, traction power, communications, passenger information systems, and a new supervisory control system.

Port Authority Trans-Hudson, On-Site Consultant, New York, NY

Senior Communications Professional and Project Designer working as part-time member of the electronics engineering staff on various

Education:

B.S., Electrical Engineering, Drexel University, 1994

Registrations:

Certified Electronics Technician, RETS Electronics School, 1981

Certified Signal Maintainer 1st Class, SEPTA, 1982

Employment History:

Gannett Fleming
2009 - Present

AECOM (formerly DMJM+HARRIS)
2008 - 2009

Systra 1995 - 2008

SEPTA 1992 - 1995

internal and third-party closed-circuit television (CCTV), access control, and security systems design and construction projects.

Metropolitan Transportation Authority, Integrated Electronic Security System, Verrazano-Narrows Bridge, New York, NY

Project Designer on a design-build team responsible for the design, installation, and construction of a video-based security system, including communications and power system modifications and interfaces with the existing systems.

Southeastern Pennsylvania Transportation Authority, Philadelphia, PA

Senior Project Manager and Designer responsible for the coordination of Frankford Elevated reconstruction project systems design and construction activities. Prepared and monitored design and construction schedules and coordinated related projects. Prepared requests for proposal for capital projects and participated as a team member in the technical evaluation of proposals.

- **Elevated Guideway and Passenger Station Reconstruction:** Senior Project Manager responsible for overseeing, auditing, and evaluating project systems design and construction activities in support of deck and station reconstruction projects. Work included the integration of train control, communications, and power systems with civil, track, and structural work.
- **Market Frankford Subway Elevated Automatic Train Control:** Project Manager responsible for the design of a new automatic train control system. The design included a cab signal system with wayside signals only at microprocessor-based interlockings, audio frequency track circuits, bi-directional running, and a new control center system for supervisory control and indication on the entire line.

Warren R. Sims, Jr.

Plan Coordinator

Senior Project Manager responsible for engineering, design, construction, and maintenance in the signaling, train control, and communications field. Experience includes systems management, operations, and installation and maintenance of signaling and communications systems for major commuter rail networks, passenger railroads, and freight lines. Manages in-house engineering and field personnel and supervises the implementation of procedures for routine maintenance and major emergency investigations. Signal and circuit design experience encompasses automatic block systems, interlocking track and signal circuits, highway crossing warning devices, and microprocessor-based audio frequency train control systems. Expertise also includes field inspection and testing of railroad and transit signal control systems and switching equipment for design specification compliance.

New Jersey Transit, MOS-3 Bayonne Extension, Bayonne, NJ

Project Manager responsible for a signal system right-of-way construction-related design interface between the new 8th Street Interlocking and the existing Bay Interlocking at 22nd Street Station on the Hudson-Bergen Light Rail Transit System. Detailed construction design for wayside signals, audio frequency overlay case locations, intrusion detection fence cable routing, and station facility conduit routing design in support of the system control and indication cables beneath the elevated structure.

Southeastern Pennsylvania Transportation Authority, Media-Sharon Hill Priority Trolley Crossing, Montgomery County, PA

Project Manager responsible for preparing contract performance specifications for a highway grade-crossing system using the light rail check-in/check-out loop concept that provides a warning system for both vehicular traffic and trolley via vehicular-style traffic lights and light rail bar signals, respectively. The project encompasses improvements to 19 at-grade crossings.

New Jersey Transit, Portal Bridge Capacity Enhancement, Secaucus, NJ

Project Manager responsible for preparing a detailed material cost estimate in support of the preliminary engineering design concept for the operational signal system improvements between the Secaucus Transfer Station and Newark. Also developed the preliminary design concept for the signal road diagrams and right-of-way equipment layouts associated with 7 new interlockings and 11 remote locations.

Education:

B.S., Electrical Engineering Technology, Temple University, 1996

Employment History:

Gannett Fleming 2008 - Present

Systra Consulting 2001 – 2007; 1996 - 2000

Union Switch & Signal 2000 - 2001

SEPTA 1983 - 1996

Amtrak 1977 - 1982

Penn Central/Conrail Communications and Signals 1974 -1977

Prior Experience

Port Authority of Allegheny County (PAAC), North Shore Connector, Pittsburgh, PA

Systems Manager responsible for providing project management services during the design phase of a light rail system. The project encompassed the extension of the central business district (CBD) segment from Gateway, beneath the Allegheny River, to the new sports complex along the North Shore, as well as a new alignment from the CBD to the Pittsburgh Convention Center. Participated in the review and coordinated design concepts as part of the TriGold Team representing the PAAC. Construction responsibilities included coordination of shop drawings and submittals with PAAC, addressing equipment, installation methods, factory and field-testing, and the review of potential change orders.

Southeastern Pennsylvania Transportation Authority (SEPTA), Automatic Train Control (ATC), Philadelphia, PA

Assistant Project Manager - Signals & Train Control responsible for providing engineering support services for ATC improvements during the construction of SEPTA's Market-Frankford Subway Elevated Blue Line. Reviewed and coordinated shop drawings and submittals with SEPTA, which involved materials, installation methods, and review of potential change orders. Participated in the review and approval of the supplier's factory and field-testing proposals. Provided on-site technical support in witnessing factory and field-testing as well as cutovers of major signal system elements.

RailWorks Improvement.

Senior Project Engineer responsible for managing the construction of major systems improvements as part of a $264 million mainline reconstruction project. Work involved the rehabilitation of a 4.5-mile, 4-track mainline corridor and the replacement of 21 bridges. Administered the critical path method scheduling and provided contractor coordination. Oversaw construction management forces for the renewal of 2 interlockings, including 194,500 feet of signaling and communications cable and 114,900 feet of the catenary system.

Stephen Malaszecki

Lead Scheduler

Stephen Malaszecki is Envisions Vice President and Senior Project Controls Engineer. He has over thirty years of experience working in the Construction Industry and is also a certified trainer with Primavera Scheduling Software. Mr. Malaszecki brings to the firm a unique blend of skill sets to assist clients in managing projects on time and within budget. Mr. Malaszecki has been involved in the project controls function on projects ranging from one million dollars to over one billion dollars. He has worked on public and private design, engineering and construction projects. He has performed scheduling and dispute resolution in the following business sectors: educational facilities, general building, transportation, refineries, power plants, highway construction, industrial building and water treatment systems. He is consistently involved in multiple projects, and successfully demonstrates commitment, client satisfaction and responsibility in such an environment.

His responsibilities include developing the master schedule along with detailed project schedules, budget cost estimate review, cost control, document control, progress payments and cost at completion estimates along with claims avoidance and dispute resolution. While at Envision Consultants, Mr. Malaszecki has conducted numerous Planning and Scheduling Training Seminars utilizing Primavera Project Planner for federally and state funded construction projects. Mr. Malaszecki has been involved with various schedule delay claims and has mitigated over fifty million dollars to date in his client's favor.

Envision Consultants Ltd., Mullica Hill, NJ, Vice President

The following list demonstrates a small sampling of the diverse projects Mr. Malaszecki has worked on:

- South Corridor Light Rail Project, Charlotte, NC
- San Francisco MUNI Tunnel Project (PMO)
- Newark Elizabeth Light Rail Project
- Denver West Corridor (PMO)
- SEPTA Silverliner Railcar Project
- SEPTA Silverliner Delay Claim Mitigation
- Please Touch Museum
- Gloucester High School
- Avon/Woodland Schools

Education:

B.S. Marketing Management, Holy Family College, 1991

Professional Certifications:

Certified Primavera Trainer 2/94

Employment History:

Envision Consultants Ltd., 1994 - Present

Flour Daniel, 1990 –1994

Parsons-Brinckerhoff Construction Services, 1987 –1990

RCA Astro Electronics, 1982 –1987

Conversion Systems Incorporated, 1980 –1982

- Delaware County Penn Dot Signals Project
- Fort Dix New Taxiway and Apron
- South Jersey Light Rail Transit Building
- Harrisburg Multi-Modal Facility
- SEPTA Paoli Remediation Project
- Lehigh School HVAC Claim
- Timberline Elementary School Claim
- Mantua Creek Generator Project
- New Jersey Turnpike Bridge Widening Project
- Philadelphia City Hall Renovations Project
- Route 41 Reconstruction Project
- Route 30 PM2 Road Project
- Veterans Administration Hospital 4th Floor Renovations
- West Chester University
- William J. Hughes Justice Center
- William Sayre High School
- Women's Detention Center Northeast Philadelphia

Flour Daniel, Marlton, NJ, Senior Project Controls Engineer

- Northeast Aromatics/Cyclohexane Project - Sun Oil Company, Marcus Hook, Pa.
- Bergen Repowering Project - Public Service Electric and Gas, Ridgefield, NJ.
- Cavern Number 5 - Sun Oil Company, Marcus Hook, PA.

Parsons-Brinckerhoff Construction Services, Philadelphia, PA, Senior Project Controls Engineer

- Frankford Elevated Reconstruction Project - SEPTA, Philadelphia, PA.

Hosney Abdelgelil

Scheduler

Mr. Abdelgelil will serve a Scheduler for the Port Authority contract. He has over 20 years of experience in construction management, project controls, cost estimating and scheduling for educational facilities, office buildings, airports, tunnels and subways, housing, commercial facilities, and courthouses in the United States, as well as maintenance hangers, air traffic control systems and industrial facilities in Egypt. Mr. Abdelgelil's specialized computer skills include Primavera, Expedition, Prolog, Constructware and Microsoft Project. He is fluent in English, Arabic and German.

Putnam County Courthouse, Putnam County, NY

Hill International is the Project Manager for the design and construction of the new 60,000 SF, $20 million courthouse. As the Controls Manager, Mr. Abdelgelil reviews the project estimate and budget and reconciles them with the Architect. He performs design and constructability review, and prepares, reviews, and updates the project schedule. Additional tasks include bid documents coordination and review.

Lion House at the Bronx Zoo, New York City Department of Design and Construction, New York, NY

Hill International is providing construction management services for the reconstruction of the historic Lion House at the Bronx Zoo which requires major infrastructure work before it can safely be returned to service. The reconstruction of the 18,000 SF building involves significant structural, roof and façade work. As Senior Project Controls Manager, Mr. Abdelgelil prepares, reviews, and updates the project schedule.

The Staten Island Zoo, Reptile Wing, New York City Department of Design and Construction, New York, NY

Hill International is providing preconstruction and construction management services for the complete renovation and building addition of the Reptile Wing, including new exhibits. Mr. Abdelgelil reviews the project estimate and budget and reconciles them with the Architect. He also performs design and constructability reviews, and prepares, reviews, and updates the project schedule. Additional tasks include preparing the project budget, constructability review, and bid documents coordination and review.

Museum of the City of New York, New York City Department of Design and Construction, New York, NY

Hill International is providing preconstruction and construction

Education:

M.S., Civil Engineering, New Jersey Institute of Technology, NJ, 1995

B.S., Civil Engineering, Cairo University, Egypt, 1983

Professional Memberships:

Project Management Institute

Construction Management Association of America

Association for the Advancement of Cost Engineering

Work History:

Hill International, Inc., 2004 - present

URS Corporation, 2001 - 2004

The Louis Berger Group, 1998 - 2001

Federman Project Management, 1997 - 1998

Structural Preservationists, 1995 - 1997

F & V Metro Contracting, 1994 - 1995

Scharf-Godfrey Inc., 1993 - 1994

Kontrak International, 1988 - 1992

management services for the renovation of the museum, including removal and replacement of the existing slate roof, a new lighting protection system, and replacement of some smaller built-up roofs. As Senior Project Manager, Mr. Abdelgelil reviews the project estimate and budget and prepares, reviews, and updates the project schedule. Additional tasks include bid and contract documents review.

Prior Experience:

Newark International Airport, Port Authority of New York and New Jersey, Newark, NJ

For this $450 million, new Airport Automated People Mover project, Mr. Abdelgelil served as Project Controls Manager and provided program schedule coordination and construction budget monitoring. The project involved the construction of a design-build one-mile link from Newark International Airport to the Amtrak Northeast rail corridor with the infrastructure required. It required extensive interagency, state and federal agencies, multiple contractors and design entities coordination. The project components included trains manufacturing and the construction of a multi-modal transportation complex. Infrastructure included a power distribution system; automatic train control system; access roads; and communication, security, and fare collection systems. The final task was system commissioning. Mr. Abdelgelil's duties included preparing a monthly progress analysis, including earned value evaluations of contractors.

Newark Airport Redevelopment Program, New Jersey Airports Division, Engineering Department, Port Authority of New York and New Jersey

As Project Controls Consultant for this $1.5 billion project, Mr. Abdelgelil conducted present and planned workload studies. Activities included budgetary and financial analyses and schedule coordination functions for the Newark Airport Redevelopment Program. The assignment also included establishing the required standard forms, performance evaluation criteria, and reporting process to the Engineering Program Manager.

63rd Street Tunnel Connection Project and Various Projects, Metropolitan Transit Authority of New York

As Civil Cost and Schedule Specialist, Mr. Abdelgelil developed the construction budget and provided schedule and constructability support for this $800 million tunnel connection project. Additional assignments included performing budgetary analysis for the New York City Subway ventilation system upgrade alternatives, and preparing construction schedules for the Subway Stations Power Upgrade Program, the Archer Avenue Fan Rehabilitation Project, and the Tunnel Shell Protection Project for the Subway's East River Tunnels.

Bassem Sinot Hanna

Scheduler

Mr. Hanna will serve as Scheduler for the Port Authority contract. He has over 20 years of significant experience in CPM scheduling, project controls, EVMS, program and construction management, project contracts, and contract negotiations. Mr. Hanna has been a team member on many major, world-class, civil construction projects, with budgets ranging from $92 million to $8 billion, and including projects for transmission lines, water resources and hydroelectric power, airports, tunnels and reservoirs, and residential and commercial facilities. In addition, he has experience in bid packaging, contract buy-outs, procurement, and civil engineering inspection of construction work to contract specifications and plans. His overseas experience includes Vietnam, France, India, Lesotho, South Africa, Malaysia, and Egypt. Mr. Hanna's specialized computer software skills include Primavera Project Planner, SureTrak Project Manager, and Microsoft Project Scheduling. He is fluent in English and Arabic, and has a working knowledge of French and Spanish.

Various Projects, Hill International, Inc., New York, NY

Serving as Senior Scheduler for Hill International, Mr. Hanna is responsible for the development of schedule, budget, and cost to complete data for assigned tasks. He assembles and compiles schedule and cost data and inputs it into the project control database, providing output to all resident engineers. He also supports the project management team in maintaining timely and effective change management processes, procedures, and systems. He develops and maintains status reports, including labor productivity, schedule status, and financial analysis, during the bidding process.

No. 7 Subway Line Extension, Metropolitan Transportation Authority, New York, NY

Hill, in joint venture is providing construction management services for the $2.1 billion construction extension of the No. 7 Line for the Metropolitan Transportation Authority Capital Construction Program and the Hudson Yards Development Corporation. The project includes two bored tunnels with each diameter approximately 22.5 feet, 34th Street Station, and two interlocking structures which will be connected to the 34th Street Station. As Project Manager, Mr. Hanna manages the project controls team. He is responsible for developing and executing all phases of the project controls effort, including planning, scheduling, and cost analysis. He analyzes, evaluates, and forecasts project costs,

Education:

B.S., Civil Engineering, Alexandria University, Alexandria, Egypt, 1987

Coursework, Computer - Advanced of Basic, Alexandria University, Alexandria, Egypt, 1985

Registrations:

American Society of Civil Engineers

Professional Memberships:

American Society of Civil Engineers

Egyptian Society of Engineers

Work History:

Hill International, Inc., 2006 - present

TDX Construction Corporation, 2004 - 2006

MWH "Harza", 1990 - 2004

Consultative Bureau of Civil Construction, 1986 - 1989

as well as performance against an established baseline schedule with critical milestones. He interfaces with clients, attends regular meetings, and provides statistical reports. He assesses the impacts of design and construction changes and schedule slippage and keeps project management full informed.

Prior Experience:

Various Projects, Construction Company, New York, NY

Mr. Hanna was responsible for the preparation and progress of all company project schedules. He evaluated the project status using Earned-Value techniques and made recommendations to senior management to accelerate schedules and mitigate problems and delays. He prepared resource-loading schedules, cost, and budget controls for all major company projects. He also assisted senior management with contract negotiations and project claims.

Various Projects, MWH, Chicago, IL

Mr. Hanna was a member of MWH's Construction Management Tiger Team of Experts. The team is a group of select, season experts, in their designated field, that are highly trained to identify and mitigate construction problems and delays. He was also a member of MWH's committee to establish a standard, world-class project controls management system, which is completed and ready for testing on a pilot project. Representative projects follow.

World Bank Construction Project, Laos, Cambodia

Mr. Hanna prepared a detailed, four-year construction schedule for the $1.1 billion World Bank construction project in Laos, being constructed under a build, own, operate and transfer (BOOT) agreement. In addition, he prepared alternative accelerated construction schedules to mitigate any potential risk for liquidated damages.

Transmission Line Construction Project, Major Vietnamese Construction Corporation, Vietnam

Mr. Hanna performed scheduling and project controls advisory services for a $160 million civil and transmission line construction project, on behalf of a major Vietnamese construction corporation. He instituted cost control measures that resulted in cost savings of over $8 million.

Denver International Airport, Colorado

As Senior Project Controls Manager, Mr. Hanna prepared a master program schedule for a $1.2 billion aviation project at Denver International Airport. He also developed a plan to manage, expedite, and complete all activities in accordance with government-established project milestones.

Chicago North Branch Tunnel Project, Illinois

As part of the massive Tunnel and Reservoir Plan (TARP) of Northern Illinois, Mr. Hanna performed quality control for the $167 million Chicago North Branch Tunnel Project. TARP was named by the USEPA as one of the nation's top Clean Water Act success stories, and is serving as a model urban water management tool worldwide.

Artan Bytyci

Scheduler

Mr. Bytyci will serve as Scheduler for the Port Authority contract. He has over 12 years of experience in scheduling, project management, and contract management for industrial, commercial and residential projects. Mr. Bytyci has served as chief estimator, bid package preparer and coordinator, and project scheduler. He has finalized buyouts with subcontractors and suppliers, prepared submittal packages, and coordinated with the architect for any discrepancies and possible change orders. At the request of the U.S. Army Corps of Engineers, Mr. Bytyci took a three-month course in scheduling, management and quality control, earning a certificate as Quality Controller. His specialized computer software skills include Primavera P3, Suretrak, Expedition, AutoCAD, Quickbooks, and Infopath.

MTA-NYC Transit Authority, 7th Subway Line Extension, New York, NY

The project will provide transit access to the West Side of Manhattan, including the Jacob Javits Convention Center, by extending the No. 7 Line westward from Times Square under West 41st Street and southward along Eleventh Avenue to the southerly terminus at West 25th Street. Hill International, in joint venture, is providing construction management services, as well as project controls services throughout the duration of the project. As Project Scheduler, Mr. Bytyci monitors progress, reports issues, and advises project team accordingly.

Port Authority of New York and New Jersey, World Trade Center Downtown Restoration Program, New York, NY

Hill International is providing program management services for the program, including the permanent WTC PATH Terminal and the WTC Site Public Infrastructure and Site Redevelopment. Mr. Bytyci is providing scheduling services including creating new CPM schedules based on Client's requirements.

The Dormitory Authority of the State of New York, Bronx County Hall of Justice, New York, NY

The new Bronx County Hall of Justice is an 11-story, 775,000 SF complex that is located on a 2½-block site on East 161st Street near Grand Concourse. The first two floors above grade contain public services, including the jury assembly building, and the third through sixth floors contain 47 courtrooms of the Bronx County Supreme Court, which is New York's trial court. The seventh floor contains seven grand jury hearing rooms, and the eighth and ninth floors house district attorney

Education:

Associates, Computer Science, Polytechnic University of Tirana, Albania, 1994

B.S., Engineering/ Geology & Mining, Polytechnic University of Tirana, Albania, 1995

Work History:

Hill International, Inc., 2007–present

Sea Breeze GC, Incorporated, 2003-2007

CNA Enterprises, Incorporated, 2003

Atlas Construction LLC, 2000-2002

Valor General Contracting and Restoration Corporation, 1998-2000

Marousi Enterprisse, Incorporated, 1996-1998

Agroservice, 1995-1996

offices and judges' chambers. The civic plaza covers a new underground parking structure for 240 cars. Mr. Bytyci was responsible for change order review.

New York Department of Design and Construction, City Hall Renovation, New York, NY

$80 million renovation of New York City Hall in Lower Manhattan renovations throughout the structure, including exterior and roofing renovations, refinishing of its iconic steps, the installation of new electrical, fire, audio-video and heating, ventilation and air conditioning systems, modernization of its elevators, and the complete renovation of all interior spaces.

New York City Department of Design and Construction, New York, Lion House at the Bronx Zoo, New York, NY

Hill provided construction management services for the reconstruction of the historic Lion House at the Bronx Zoo. The Lion House had not been used since the mid-1970s, and required major infrastructure work before it could safely be returned to service. The historic character of the building, including the many lion figures made from terra cotta, is being preserved. Mr. Bytyci provided scheduling services to the project.

New York City Department of Design and Construction, el Museo del Barrio, New York, NY

Museum renovation project including the removal, reconfiguration and interior renovation of the existing museum public and gallery spaces, addition of a café and the interior renovation of the galleries, gift shops and renovation of the existing courtyard. As Scheduler Mr. Bytyci monitors the progress, reports issues, and advises the project team accordingly.

Megan Syrnick, PSP

Scheduler

Ms. Syrnick will serve as Scheduler for the Port Authority contract. She has six years of consulting experience in scheduling and construction management, claims, technical research, specification development, and training. Ms. Syrnick's responsibilities have included performing analyses for a variety of construction projects including vertical, highway, and railroad construction relative to scheduling, claims, research, and specifications.

Ms. Syrnick's specialized computer software skills include Primavera P3, P6 and SureTrak in addition to Microsoft Project, Schedule Analyzer Pro, and Claim Digger.

I-95 Reconstruction, Philadelphia, PA

Ms. Syrnick is assisting in the construction management of several projects along Interstate 95 and Interstate 476 (Blue Route) for the Pennsylvania Department of Transportation. Her responsibilities include assistance with preliminary design and constructability reviews, reviewing project schedules, and the resolution of issues affecting the progress of the work.

Prior Experience:

National Cooperative Highway Research Program (NCHRP) Project No. 10-68, Guidelines for the Use of Pavement Warranties in Highway Construction

For the Transportation Research Board (TRB), Ms. Syrnick acted as technical researcher for a study (not yet published) to identify best practices and develop technical guidelines for the use of pavement warranties by U.S. state transportation agencies. Her duties included development of an automated warranty decision tool to guide state transportation agencies through both program-level and project-level decisions ensuring that the type of warranty applied was consistent with the agency's expectations for the project.

National Cooperative Highway Research Program (NCHRP) Project No. 20-07, Use of Warranties in Highway Construction

For the Transportation Research Board (TRB), Ms. Syrnick assisted in development of a Synthesis (pending publication) that provided an overview of components warranted on U.S. highway transportation projects, reported on implementation issues associated with the use

Education:

B.C.E., Civil Engineering, Catholic University of America, 2002

Registrations:

Planning and Scheduling Professional

Professional Memberships:

American Society of Civil Engineers

Women's Transportation Seminar

The Engineer's Club of Philadelphia

Work History:

Hill International, Inc., 2008–present

Trauner Consulting Services, Inc., 2002-2008

of warranties, identified existing gaps in warranty implementation, and recommended strategies to address these gaps. Following this research, Ms. Syrnick developed and conducted a three-part survey of the 50 U.S. state transportation agencies to gather information on U.S. warranty programs. She the analyzed the results of the survey to identify trends or apparent discrepancies in the survey results and she worked closely with survey respondents to resolve or provide explanations for the apparent discrepancies.

New Jersey Department of Transportation (NJDOT) and Maryland State Highway Administration (MDSHA) Projects

Reviewing and analyzing construction schedules for NJDOT and MDSHA, Ms. Syrnick was responsible for reviewing Baseline and Update schedule submissions for conformance to contract plans and specifications, tracking critical path progress between schedule updates, and identifying progress that resulted in a delay or savings to the project completion date. She also provided recommendations on the approval of changes such as alternate phasing and alternate traffic control plans, either in the initial schedule or in recovery schedules. In addition, she provided recommendations on the approval of time extensions for delay and indirect costs associated with compensable delays such as owner-directed changes, utility delays, severe weather impacts, and differing site conditions. Specifically, Ms. Syrnick's projects included:

- NJ Routes 1 and 9 and Route 35: Clover Leaf Interchange Redesign, Middlesex, NJ
- NJ Routes 1 and 9: Realignment of Section 1k and 3m, Middlesex County, NJ
- NJ Routes 1 and 9 Merge: Reconstruction, Middlesex County, NJ
- MD19 (Main Street) and Walnut Street: Streetscape Improvements, Church Hill, MD
- MD 7 Perryville: Replacement of Existing Bridge with Prestressed Concrete Slab Bridge, Cecil County, MD
- MD404 Denton Bypass: Dualization of an .83 mile Portion, Caroline County, MD
- MD Routes 19 and 405: Replacement Bridges, Queen Anne's County, MD
- MD Route 272 (Main Street): Streetscape Improvements, North East, MD
- Shore Highway: Construction of a Storm Water Management Pond, Caroline County, MD
- MD 445 and 20: Streetscape Improvements, Kent County, MD

NJ Department of Transportation (NJDOT) Road and Bridge Construction Specifications

Ms. Syrnick participated in the rewrite of Standard Specifications for Road and Bridge Construction for the NJDOT providing suggestions for technical revisions for the NJDOT and facilitating discussions on suggested revisions between NJDOT and select representatives of industries related to specific sections. The scope of the revisions involved conversion to active voice and an overall review to ensure that the specifications were clear, concise, consistent, and correct.

Clarence E. Bossard

Lead Cost Engineer

Mr. Bossard, Hill's Chief Estimator, will serve as Lead Cost Engineer for the Port Authority contract. He has over 40 years of experience in the construction industry as a construction manager, building inspector, contractor, estimator and scheduler. In addition, he worked with several major architectural and construction firms which have afforded him extensive experience in management, design, specification writing, estimating, value engineering and inspection of construction projects. His experience includes a variety of assignments including expert witness testimony on project construction costs.

New Jersey Department of Transportation (NJDOT), Berlin Circle, NJ

Mr. Bossard was responsible for providing the cost estimate for the A/E for the completion of design for the NJDOT and Public Storage project.

World Trade Center (WTC) PATH Station Reconstruction, Port Authority of New York & New Jersey

As Chief Estimator, Mr. Bossard is involved with the estimating effort for the Port Authority's 3.5 million SF of reconstruction below street level with initial budget estimates, design estimates and final estimates. The site includes security, tenant and bus parking, core and tower podiums, new PATH terminal, central power and mechanical plants, memorials, and cultural and performing art centers.

Insurance and FEMA Claims--World Trade Center & PATH, Port Authority of New York & New Jersey

As Chief Estimator, Mr. Bossard is providing the Port Authority with initial project budget estimates, design for construction estimates and final estimates for the damage and reconstruction and rehabilitation of the Rail Transit System related structures. The project extends from the World Trade Center site through the tunnels under the Hudson River and into the Exchange Place Station and tunneling work in New Jersey. The project involved over $1 billion in losses related to the World Trade Center buildings and the PATH system. Losses included the US Customs House and the tenant areas located throughout the complex which were formerly occupied by the Authority's staff.

New Haven Rail Maintenance Facility, State of Connecticut, Office of Policy & Management

Hill was retained by the Governor's office to review and analyze the scope, cost, and budget of a proposed major expansion of the New

Education:

A.S., Technology, Temple University, 1967

Work History:

Hill International, Inc., 1982–present

Son-Tone Construction, 1978-1980

Royal Par Industries, Inc., 1974

SAF Construction, 1973-1974

Truscott, Graham & Mattson, Inc., 1972-1974

Mario R. Fumo, Architect/ SAF Construction, 1971-1974

Camden Lime Company, 1967-1970

Haven Rail Maintenance Facility, estimated in excess of $1 billion. As Chief Estimator, Mr. Bossard managed and participated in the analysis, the development of recommendations, and the preparation of reports presented to the Governor and the Legislature.

Atlantic City International Airport

The South Jersey Transportation Authority implemented a major capital improvement program to accommodate the projected increase in passenger traffic by 1997. Hill International provided project management and construction management services to the Atlantic City International Airport Improvement Program. The program included 26 projects estimated at $82 million for both airside and landside areas and various other equipment procurements. Airside improvements included apron expansions as well as taxiway/runway improvements. Landside improvements included expansion of existing terminal and associated parking lots, additional security, roadway improvements including lighting, signage and site preparation for a partially new and expanded passenger terminal and cargo facilities. Mr. Bossard provided estimating services for the project.

Philadelphia International Airport Program Management

The Philadelphia Department of Commerce, Division of Aviation, has implemented a major capital improvement program designed to bring landside and airside facilities at Philadelphia International Airport and Northeast Philadelphia Airport in line with projected air passenger and aircraft activity demand. Hill International is currently working under its fifth, multi-year program management contract to develop, implement, and maintain all management systems necessary for effective planning and control of the program, with special emphasis on funding sources and project cost and schedule control. Mr. Bossard provided estimating services for the project.

Boris Goodman

Cost Engineer

Mr. Goodman will serve as Cost Engineer for the Port Authority contract. He has more than 34 years of project management experience including cost estimating, design and construction for a variety of multi-disciplined projects. Mr. Goodman has utilized strong leadership skills to develop and motivate in-house staff as well as consultants and contractors. Mr. Goodman has implemented solutions to complex and difficult design/construction assignments with senior management, peers and subordinates. His background includes residential, commercial, educational, industrial site development, tunnels, rail, and transit projects.

Education:

Diploma, Industrial and Civil Engineering, Kolomensky Teachers School, 1975

Work History:

Hill International, Inc., 2009 – present

Koch Engineering, P.C. 2008-2009

Columbia University, 2007-2008

Long Island Rail Road, 1985-2007

Sverdrup and Parcel, 1978-1985

State Office For Construction, 1975-1978

PRIOR EXPERIENCE

Metropolitan Transportation Authority (MTA), Long Island Rail Road, Capital Program Management, New York, NY

For a commuter service railroad, Mr. Goodman was responsible for the development, planning, coordination, and execution of projects including administration, scope, schedule, budget, quality control, and safety for a variety of projects. He also managed coordination between third party contractors, consultants, Long Island Rail Road (LIRR) Force Account, New York City Transit (NYCT), Amtrak, State, City and other government agencies and major public stakeholders. Mr. Goodman's duties included fast-track trade contract procurement, risk analysis, constructability review and value engineering. He was also involved in all aspects of design and construction management including cost control, change order negotiations, invoice review and approval, directing and managing project staff. Specifically, Mr. Goodman's projects included:

- Atlantic Terminal Facility ($110M), an intermodal commuter rail terminal with $300M private overbuild development project.
- Hempstead Station ($25M) railroad facility with platform and track improvements.
- Huntington Station ($24M) railroad facility with platform and track improvements.
- Main Line Electrification ($150M).
- Woodside Station Renovations ($70M).
- Hillside Support Facility ($312M).

Metropolitan Transportation Authority (MTA), Long Island Rail Road, Capital Program Management, NY

Mr. Goodman organized the Long Island Rail Road (LIRR) Cost Estimating Department and developed guideline and procedures for preparation of construction cost estimates. He also directed development of estimating methods, systems and cost data for preparation of design and construction estimates for the $2.1 billion Capital Program. Mr. Goodman's duties included collecting labor, material, and equipment data from the cost estimating library and analyzing industry trends to establish escalation rates. He introduced the basis of establishing the Zero Variance Budget Control concept, the main objective of which was to "zero out" overruns on individual project budgets in order to maintain costs within the overall authorization of the Capital Program. Mr. Goodman also coordinated planning and implementation efforts for the Capital Program; established detailed budgets for project justification and funding; and assembled historical data on the actual costs for the project database. He also provided progress reports to senior LIRR and MTA management; maintained technical and functional interfaces with Strategic Planning, Engineering, and Transportation; and developed and conducted a seminar entitled "Introduction to Project Management" as part of LIRR's continuing education program.

Various Projects, New York, NY

Mr. Goodman was responsible for preparation and coordination of cost estimates from engineering drawings and specifications; as well as scheduling, planning, budget control, and contract amendment estimates for lump sum and unit price contracts. He also developed a cost-risk analysis study in terms of the probability of meeting project schedule cost at completion; and he reviewed plans and specifications in relation to procurement, schedule and constructability/ feasibility. Specifically, his projects included:

- Metro-North Upper Harlem Line Electrification
- LIRR Port Jefferson Line Electrification
- Anacostia River Sunken Tube Tunnel
- Pepsi-Cola Factory Renovation
- US Postal Service Central Facility
- Transit Authority (TA) Bronx Bus Depot

Leonard M. Law

Cost Engineer

Mr. Law will serve as Cost Engineer for the Port Authority contract. He has over 30 years of experience in electrical estimating, circuitry, and wiring methods; scheduling; construction management; and procurement for power plants, office buildings, petrochemical facilities, water/wastewater treatment plants, shipping docks, and industrial facilities. He has also purchased and procured material and equipment for projects. Mr. Law is a focused and highly motivated individual with proven ability to perform in fast-paced, high-pressure environments. He has the demonstrated ability to manage multiple projects and meet deadlines under pressure. His specialized computer software skills include Microsoft Project, MC2 (computer aided estimating system), and On Center Take Off. Mr. Law has been an Electrical Instructor at Camden County Technical Institute in Pennsauken, New Jersey since 1992. He instructs students in electrical circuitry and wiring methods and teaches rules and methods of the National Electrical Code.

Port Authority of New York & New Jersey, World Trade Center (WTC) Station Reconstruction, New York, NY

As an Electrical Estimator, Mr. Law is involved with the estimating effort for the Port Authority's 3.5 million square feet of reconstruction below street level with initial budget estimates, design estimates, and final estimates, including Federal Transit Administration grantee funding scope. The site includes security, tenant and bus parking, core and tower podiums, new PATH terminal, central power and mechanical plants, memorials, and cultural and performing art centers.

State of Connecticut, Office of Policy and Management, New Haven Rail Maintenance Facility, New Haven, CT

Hill was retained by the Governor's office to review and analyze the scope, cost, and budget of a proposed major expansion of the New Haven Rail Maintenance Facility, estimated in excess of $1 billion. As Senior Electrical Estimator, Mr. Law participated in the analysis, the development of recommendations, and the preparation of reports presented to the Governor and the Legislature.

City of Palm Coast Professional Cost Estimators, Palm Coast, FL

Hill assisted and advised the City of Palm Coast, Florida, during the programming, design, and construction phases of various capital projects construction and renovation projects. Hill is helping the city and its design team maximize their resources and efficiency, document contract compliance and project activities, and conduct quality

Education:

B.S., Construction Management, Drexel University, Pennsylvania, 1992

Work History:

Hill International, Inc., 2005 – present

Hunt Power, 2004-2005

Turner Construction, 2000-2004

Day & Zimmerman, 1997-2000

Fleming Instruments, 1995-1997

McCrae Construction Company, 1993-1995

TNT Construction, 1992-1993

Camden County Technical Institute, 1992

Rite Way Electric, 1987-1992

Henkel & McCoy, 1974-1987

assurance reviews of project documents and drawings. Hill also is helping the city with project scheduling, budget development and cost estimating. Mr. Law was responsible for the MEP building inspection.

NASA New Town, Langley , VA

Mr. Law was responsible for estimating electrical services for NASA's $200 million New Town Program, a phased GSA modernization of the Langley Research Center, comprising six new buildings. The initial component of this program is the $22 million Administrative Office Building.

General Services Administration, Lafayette Building Modernization, Washington, DC

Mr. Law serves as Electrical Estimator overseeing a $200+ million project during design, procurement, construction, and commissioning phases. This GSA project is a full modernization of approximately 565,000 GSF, and is designed to meet Class A office standards, achieve a LEED Silver Certification, and maintain its status on the National Register of Historic Buildings.

General Services Administration, FBI Field Office, Norfolk, VA

Hill International, Inc., with joint venture partner Louis Berger Group, is providing construction management services to the GSA for construction of a 200,000 SF Class A office building, a parking structure, and two security buildings at two points of entry. As Electrical Estimator Mr. Law was responsible for estimating electrical services.

Carol P. Abelow

Cost Engineer

Ms. Abelow will serve as Cost Engineer for the Port Authority contract. She has over 15 years of experience as an estimator and project manager for casino/hotels, museums, and commercial building projects. Ms. Abelow has estimated and managed Section 10 disciplines and has a working knowledge and hands-on expertise with submittals, shop drawings, change orders, and closeout packages. She has also coordinated and managed walk-throughs for renovation and addition projects and assisted in the preparation of contract documents and scheduling.

Port Authority of New York and New Jersey, World Trade Center Downtown Restoration Program, New York, NY

Hill International is providing program management services for the program, including the permanent WTC PATH Terminal and the WTC Site Public Infrastructure and Site Redevelopment. Ms. Abelow is providing architectural estimating, square footage, and floor and wall estimates.

State of Connecticut, Office of Policy and Management, New Haven Rail Maintenance Facility, New Haven, CT

Hill was retained by the Governor's office to review and analyze the scope, cost, and budget of a proposed major expansion of the New Haven Rail Maintenance Facility, estimated in excess of $1 billion. As an Estimator, Ms. Abelow participated in the analysis, the development of recommendations, and the preparation of reports presented to the Governor and the Legislature.

Comcast Center, Philadelphia, PA

Hill provided project management services on this 58-story skyscraper, designed by Robert A.M. Stern, which includes 1.25 million-sf of Class AA office space and 40,000 square feet of retail space. Upon completion, the project, the tallest building in Philadelphia, features a dramatic 110-foot high winter garden, two-story glass café, 15 atrium floors and a four-story sky garden situated 735 feet above the public plaza. Ms. Abelow provided architectural and structural estimating.

Lafayette Building, Washington, DC

Hill will provide design, procurement and construction phase construction management of the building modernization to include compliance with fire and life safety standards, energy-efficient lighting, security; restoration of the elevator cabs; and facade restoration.

Education:

A.A., Nursing, De Anza College, California, 1971

Certificate, Blue Print Reading, GBCA, Pennsylvania, 1999

Professional Memberships:

American Society of Professional Estimators

Work History:

Hill International, Inc., 2006 – present

Tri State Hardware, 2000-2006

Blackman and Company, 1991-1999

Cooper University Hospital, 1978-1979

Garden State Hospital, 1975-1977

Rancocas Valley Hospital, 1972-1973

Dominican Hospital, 1971-1972

Perimeter security and blast resistant windows will be incorporated into the completed project. The project will provide major systems upgrades, including mechanical, electrical, and plumbing systems throughout the building, plus abatement of hazardous materials. The modernized building will comply with all codes and standards and significant historic features will be preserved and restored; the building will also meet U.S Green Building Council's LEED Silver certification. Ms. Abelow provided architectural and structural estimating.

Newtown Square Office Expansion, Newtown Square, PA

Hill Estimating and Control Services is providing estimating oversight to a 245,000-sf building expansion. Building had increased in cost and scope creep from inception to design development with a 40% cost above current project budget. Hill provided third-party estimating services and design and constructability review, contractor review of scope, reality of cost to market, and other control and estimating services. Ms. Abelow provided architectural and structural estimating.

Sullivan Square, Madison Tower 1, District of Columbia Public Libraries IDIQ, Washington, DC

Hill International provided project and construction management services to the District of Columbia Public Library for its capital construction program. Hill services included construction management, scheduling, estimating, constructability reviews, and reviews of the mechanical, electrical and plumbing designs for the construction and renovation of two new public libraries. Ms. Abelow provided architectural and structural estimating for the Anacostia and Tenley branches of the Library.

Terrece E. Malave

Cost Engineer

Mr. Malave will serve as Cost Engineer for the Port Authority contract. He has over 15 years of experience in mechanical estimating, change order negotiation, and payment requisitions for HVAC, plumbing, and fire protection for high-rise buildings, educational facilities, transportation, power, commercial, government, and residential projects. Mr. Malave has performed take-off of all materials, prepared and completed bid form documents, negotiated change orders, submitted requests for information for clarification, reviewed project payment requisitions, reviewed punch list items, and completed project closeout. He has also expedited purchase orders and performed take-offs on various divisions. Mr. Malave's specialized computer software skills include Primavera, Quick Pen, Timberline, Line (MCA and LCO estimating), Fox Pro, On Center, Auto Bid, MC2, and PC Anywhere. He is fluent in English and Spanish.

Education:

Coursework, Accounting, Kean University, New Jersey, 1994-1996

Work History:

Hill International, Inc., 2006-Present

Skanska USA Building, Inc., 2006

Durr Mechanical Construction, 2004-2006

M & R Mechanical Contractors, 2000-2004

Starbrite/Plato Construction, 1998-2000

Eastern Builder Construction Co., 1993-1998

Port Authority of New York and New Jersey (PANYNJ), World Trade Center Transportation Hub, New York, NY

Hill International provides PANYNJ with program management and technical support for the restoration of PATH train service to Lower Manhattan in the wake of the World Trade Center Disaster. As Estimator for Hill, Mr. Malave provided the scope of work write up for the mechanical effort. He reviewed mechanical drawings, created RFIs for mechanical drawings, and provided the mechanical estimate.

State of Connecticut, Office of Policy & Management, New Haven Rail Maintenance Facility, New Haven, CT

Hill was retained by the Governor's office to review and analyze the scope, cost, and budget of a proposed major expansion of the New Haven Rail Maintenance Facility, estimated in excess of $1 billion. As an Estimator, Mr. Malave participated in the analysis, the development of recommendations, and the preparation of reports presented to the Governor and the Legislature.

District of Columbia Public Library IDIQ, Washington, DC

Hill International provided project and construction management services to the District of Columbia Public Library for its capital construction program. The program includes both new construction and renovation projects at various locations throughout the district. Mr. Malave performed all mechanical estimates, RFIs, and scope write-ups.

Hunts Point Terminal Produce Market, Bronx, NY

Hill provided the Hunts Point Cooperative Association with estimating services to evaluate the budget construction costs for the general scope of work for two alternative designs. The costs for the two alternatives were estimated to be in the range of $600 to $700 million. The proposed facility will have approximately 580,000-SF of space, housed in two large buildings which will include 86 stores for sales and distribution. The infrastructure for this center will include both trucking and rail facilities, and new site utilities. As Estimator Mr. Malave performed all mechanical estimates, RFIs, and scope write-ups.

Broward County, City of Sunrise Public Safety Complex, Sunrise, FL.

The City of Sunrise retained Hill International for estimating services for a public safety complex. As Estimator Mr. Malave performed all mechanical estimates, RFIs, and scope write-ups

NASA New Town, Langley, VA

NASA's New Town Program is a phased modernization of the Langley Research Center, a $200 million program, including construction of a design-build administrative building, an integrated service building, two laboratories and a second administrative building. Hill International, under contract with the U.S. General Services Administration provided a full range of construction management services for the program, from the pre-design through post-construction phases. The facilities are expected to be certified LEED Silver. As Estimator Mr. Malave performed all mechanical estimates, RFIs, and scope write-ups.

Bronx County Hall of Justice, Bronx, Dormitory Authority of the State of New York (DASNY), Bronx, NY

The new Bronx County Hall of Justice is an 11-story, 775,000 SF complex that is located on a 1½-block site on East 161st Street. As Lead Mechanical Estimator, Mr. Malave worked at the job site for eleven months. He reviewed the mechanical contractors' change orders and created comparison estimates for change order negotiation. He also created mechanical change order allowances for DASNY approval.

Comcast Center, Philadelphia, PA

Hill provided project management services on this 58-story skyscraper, designed by Robert A.M. Stern, which includes 1.25 million SF of Class AA office space and 40,000 SF of retail space. Upon completion, the project is tallest building in Philadelphia, which features a dramatic 110-foot high winter garden, two-story glass café, 15 atrium floors and a four-story sky garden situated 735 feet above the public plaza. Mr. Malave assisted with the mechanical estimate completion. He also reviewed and created RFIs for the mechanical drawings.

John Catarino

Support Expert – Signals and Communications

Mr. Catarino has 10 years of experience in the design field. His extensive background covers architectural, structural, electrical and communications design, conduit/pipe fitting layout and scheduling. Additionally, Mr. Catarino has experience with planning, estimating, and project management. He also has clearance for security sensitive work and has experience with security control systems. He is proficient in signal systems detailing and design and has experience in relay and processor based interlocking and highway crossing systems for light rail, heavy rail, and commuter rail block signaling. Mr. Catarino's diverse experience also includes the ability to generate Geographic Information System (GIS) databases, BOM lists, and spreadsheets. He is familiar with turning and milling methods using CNC/NC programming with GD&T requirements and is well-versed with fabrication techniques and equipment installation. Mr. Catarino's professional experience includes the following representative projects:

PANY&NJ PATH CCTV & Laser Intrusion Detection Network

Mr. Catarino is Project Manager responsible for PATH train stations using built-in Video Analytics technology and Laser Intrusion Detection System (LIDS) upgrade to provide advanced Security Incident Display to administrators and authorized users for rapid emergency event reaction.

PANY&NJ License Plate Recognition (LPR) Network System

Mr. Catarino was the Designer responsible for the License Plate Recognition (LPR) systems at the Taxi Parking Facilities at JFK. This system involved the design of a full LPR/OCR system for the validation and authorization of 13000 cabs with an expansion to 30,000 using fiber optic based networks; plus training program development and surveillance systems.

PANYNJ/PATH Tunnels E and F Rehabilitation, NY

As Manager, Mr. Catarino was responsible for the CAD services of the design for communications and infrastructure for Tunnels E & F from Exchange Place to the World Trade Center site.

PANY&NJ Staten Island Railway North Connection to the Chemical Coast Line and the AK Drawbridge

Mr. Catarino served as Assistant Designer responsible for preparing signal drawings for the AK Interlocking. AK Interlocking is a single switch turnout and lift bridge that connects the Howland Hook Marine

Education:

New Jersey Institute of Technology - Mechanical Engineering

Certified in Computer Aided Design and Drafting

Certified in Indigo Vision IP Network Solutions

Employment History:

SYSTRA Consulting, Inc., 1998 – present

Network Electrical Communications, 1998

Garg Engineering,

1997 – 2007

Atlantic Wall Systems, Inc., 1992 -1997

terminal with North Connection Track to Conrail's Chemical Coast Line and future connection to the Cranford line. The project included providing a new interlocked power switch west of the bridge (serving the new North Connection route), providing for new eastward home signals on both the North Connection and the original main track, new electro code compatible electronic tack circuit equipment for the bridge end of the new North Connection track, relocation of the westbound home signal for the AK Drawbridge to accommodate the required drilling pocket between this signal and the proposed hand operated yard lead switch.

PANY&NJ Port Authority Trans Hudson (PATH) Exchange Place Station Restoration, NY

Mr. Catarino was the Designer responsible for CAD detailed design for audio, visual, and communications infrastructure at Exchange Place.

MTA Design, Development, Furnishing, and Installation of Integrated Electronic Security Systems (IESS) and Security Operations (C3) Centers, New York

As Designer, Mr. Catarino provided security systems engineering support , conduit and cabling layout/schedules for NYCT, MNR, LIRR/ Amtrak train stations, requirements management in a CASE tool, business rules and ConOps support, review of C3 center facility designs for human factors and security, complete training program development and implementation, and is the commissioning agent. As the commissioning agent, SYSTRA is overseeing the proper implementation of all aspects of the project, including process and plan development, design, manufacture and assembly, installation, testing, training, and commissioning.

John Hofbauer, PE

Support Expert –Signals and Communications

Mr. Hofbauer has more than 15 years of experience in electrical engineering and specializes in design of control centers, passenger systems, and field installation of signal, communication, and electrical systems for Central Instrument Houses (CIH); signal circuit design for automatic block, interlocking track and signal circuits; and highway crossing warning devices. He has been involved in the design of automatic block signaling using microprocessor-based coded track systems. Recent experience includes the design of NJ Transit's ASES II – Positive Train Control (PTC) Project, THE Tunnel Project and Portal Bridge Projects. This included design of signal circuits, AC and DC power, and CIH layouts. Mr. Hofbauer has worked on the design and implementation of SCADA systems for power management and signals indication and control. He is trained in SYSTRA's rail operations simulation software, RAILSIM®, to analyze track layouts for future enhancement of railroad, freight, and rapid transit systems. Mr. Hofbauer's background includes experience in field inspection and testing of railroad signal control systems, switching equipment, station lighting, security, and smoke/fire detection to ensure design specification compliance.

PA World Trade Center (WTC) WTC Perimeter CCTV and Access Control System

Mr. Hofbauer was Task Manager responsible for technical design and implementation of Access and Security Systems using CCTV cameras, as well as biometrics for access and control of the WTC perimeter. This project included the design of the badging station, wireless access points within the perimeter, fixed and PTZ cameras, fiber optic backbone including specifying the equipment, and designing the communication panel cases that will make up the distributed access points in the network. This system will be used for both pedestrian and vehicle access into the WTC site.

PANY&NJ PATH Train Control and Communications Systems Installation and Integration

Mr. Hofbauer was Project Engineer responsible for creating functional specifications and drawings to provide PATH with the implementation of the control center systems for the new control center. This includes the train control system, SCADA power system, integrated voice communication system, security system, as well as pulling together the various hardwired communication systems utilized in the existing

Education:

B.S., Electrical Engineering, Penn State University, University Park, PA (5/1992)

Registrations:

Professional Engineer, Pennsylvania

Professional Engineer, Florida

Employment History:

Hill International, Inc., 2001 – present

DMJM, 1998 – 2001

Edwards and Kelcey, 1996 – 1998

Southeastern Pennsylvania Transportation Authority (SEPTA), 1988 -1996

Baker Engineers, 1986 - 1988

Southeastern Pennsylvania Transportation Authority (SEPTA), 1980 -1984

Booz, Allen & Hamilton, 1978 – 1980

National Railroad Passenger Corporation, (Amtrak), 1976 - 1978

Delaware and Hudson Railway Company, 1974 - 1976

control center in the Hoban facility. In addition, each system will include a separate video wall displaying the systems overall pictorial display of its system or, for CCTV and Security, showing individual predetermined cameras. The design included rack layouts, cable, power and heat management, division workstation designs and layouts, as well as interfacing these new systems into the existing SONET system.

NJ Transit THE Tunnel

As Lead Signal Engineer, Mr. Hofbauer was responsible for the development of signal design drawings and specifications for NJ Transit's two new tracks/tunnels under the Hudson River into Penn Station, NY. This design includes the control line drawings, express and local cable layouts, interlocking circuits, track circuit, signal, switch layouts and typical circuits, conduit layouts, central instrument house and signal room layouts, and flood gate controls including the interfaces to the signal system. Also, included was the interface to the new ventilation system which required multiple vent zones within the tunnel portion of the project limiting only one (1) train per zone. The design utilized SYSTRA's RAILSIM Signal Design Tool to ensure a NJ Transit-compliant signal design. This project includes modifications to the existing Rail Operations Center (ROC) and a new 34th street line control center (SOC) as well as a CTC overall display layout to incorporate into NJ Transit's Train Monitoring and Control (TMAC) system.

NJ Transit Positive Train Stop Project Stage 2, Advanced Speed Enforcement System (ASES II)

Mr. Hofbauer was Project Manager/Engineer responsible for the development of functional/ technical design documents for NJ Transit's new ASES II system.

David Male, PE

Support Expert – Signals and Communications

Mr. Male has over 27 years of experience in train control system planning, design, engineering, implementation, and project management of transit agency central control and security centers for clients including LIRR, NYCT, MTA, and PANY&NJ. His experience includes heavy rail, light rail, and commuter rail transit, as well as freight rail projects. This includes management of major capital improvement projects, management and design of supervisory control systems, including development of Concept of Operations and Staffing Plans, user interface prototyping, requirements analysis, contract documents, technical review of contractor submittals, and staging and commissioning planning; engineering and programming for applications of vital microprocessors, RAMS analyses (including application of MIL-STDs), software development requirements, Human Factors (including application of MIL-STD 1472), and extensive signal circuit design, installation, and cut-in of signal systems. He is proficient in the application of computer tools for project management and design, and he has held positions as director, project manager, assistant director-signals, senior signal engineer-circuit design, engineer-signals and foreman of signal construction.

PANY&NJ PATH Security and Control Center

Mr. Male is Project Manager responsible for the design team developing Stage I requirements for a new security and operations control center. The work includes all user, facility, and systems requirements for the new center. Design charrettes and interviews with user groups established operational needs, and maintenance and systems requirements. The new center will encompass all personnel and systems necessary for normal operations, managing customer questions and problems, and detecting, responding, and managing incidents. A large variety of command and control systems: voice, radio, and telephone communications systems, CCTV, access control, and hazard detection systems, and enterprise systems will be incorporated into the control center and interface to legacy systems through extension of the agency backbone communications systems. In addition, budgetary cost estimates and a white paper on contracting strategies are provided.

NYCT Subdivision B, ATS System, New York

Mr. Male is responsible for concept of operations, staffing, requirements engineering, bid phase support, and engineering during construction for the NYCT's ATS-B Program. The program encompasses expansion

Education:

B.S., Applied Science & Technology ET, Edison State College, 1989

A.A.S. EET Mercer County Community College, 1987

Basic Project Mgmt. A.M.A., 1988

Signalmen Training, Consolidated Rail Corp., 1982

Local Area Networks 1988 George Washington University, 1988

Registrations:

Professional Engineer, New York

Professional Engineer, Delaware

Employment History:

SYSTRA Consulting, Inc., 1991 – present

Metro-North Commuter Railroad,

1984 – 1991

DeLeuw, Cather & Company, 1983 – 1984

Consolidated Rail Corporation, 1978 -1983

to NYCT's Subdivision B of centralized service management started under the ATS-A program. The ATS-B system will include the ATS portion of NYCT's CBTC systems. When completed, the ATS systems will provide real-time train monitoring and control of NYCT's more than 6,000 daily trains moving approximately 4.5 million daily customers. The work included an IEEE Std 1362-1998 compliant Concept of Operations, system development and quality assurance, systems integration requirements, and specifications for the office portions of the ATS-B system. System specifications are being developed using the CASE tool Requisite Pro.

LIRR Jamaica Central Control System, New York

Mr. Male was responsible for engineering, planning, and specifying the LIRR's planned Jamaica Central Control System (JCCS). The program included a new central control system for all of the LIRR's heavy rail operations, centralized service management, and real-time train monitoring and control, as well as replacement of the LIRR's TIMACS train scheduling system. Mr. Male's responsibilities included system requirements definition, facility requirements, and control center operating theater layout in the new Airtrain facility at Jamaica Station, and specifications for the office portions of the central control system, including a separate backup system. User interface prototypes were developed to assist in defining user requirements for the system.

NYCT Control Center Modernization Program, New York

Mr. Male was responsible for engineering, planning, specifications, bid phase support, and engineering services during construction for the NYCT's ATS-A Control Center Modernization Program.

Howard Peer, PE

Support Expert – Signals and Communications

Mr. Peer is a seasoned communications and signal engineer with over 30 years of experience managing and supervising communications and signals projects. He has 13 years of supervisory experience with Amtrak and SEPTA, eight years of transit related construction management background with electrical contractors and ten years as a practicing consultant. Mr. Peer has provided services for the design, replacement, and/or installation of a wide variety of communications equipment. He is an experienced systems manager who has successfully managed large and technically complex projects, including the SEPTA Market-Frankford Elevated Reconstruction, NJ Transit, ARC/THE Tunnel, and MTA/LIRR East Side Access as well as signaling projects for SEPTA, DRPA, NJ Transit and other transit agencies nationwide.

PANY&NJ – Radio Infrastructure Improvement Projects, New York, NY

Mr. Peer was responsible for radio upgrade projects at JFK, LaGuardia, and on the PATH system. The work included improving in-building wireless coverage, extending 800MHz simulcast systems and radio of fiber optic communications.

PANY&NJ PATH Restoration Project, New Jersey/New York

Mr. Peer supervised the design modifications during construction of the Exchange Place station and PATH tunnel restoration projects. His responsibilities included the responding to Contractor RFI's upon review and the overseeing of all phases of work involving the construction of communications cable, duct work and equipment during the station and tunnel restoration.

PANY&NJ PATH Control Center, New Jersey (Ongoing)

This project designs a new control center to replace the existing facility. The design includes a new operating theater, integrated communications consoles, voice and data facilities, radio integration, projection screens, security elements, large scale data storage, and back-up plans. Mr. Peer provided preliminary engineering and needs analysis.

MTA-CC IESS/C3 Program, New York, NY

Mr. Peer led the design portion of the design/build program for Integrated Electronic Security System (IESS) and Security Operations (C3) Centers at various locations throughout New York. SYSTRA is providing security systems engineering, C3 center designs, and facility security design.

Education:

B.A., Physics, Thomas Edison State College

Registrations:

Professional Engineer, New York

Professional Engineer, Pennsylvania

Professional Engineer, Maryland

Professional Engineer, Virginia

Professional Engineer, Massachusetts

Professional Engineer, California

Professional Engineer, DC

Employment History:

SYSTRA Consulting, Inc., 1991 – 1994

W.V. Pangborne, 1988 – 1991

SEPTA, 1982 -1987

National Railroad Passenger Corporation (Amtrak), 1974 - 1982

MNR Radio System Redesign, Connecticut

Mr. Peer led this project that provided extensive radio coverage studies were conducted along with field investigations to select appropriate field sites. Site specific designs covering communications, electrical, and site work improvements were created. Designs included simple and complex antenna structure designs. Detailed construction estimates and schedules were provided.

MNR Fiber Optic Cable Installation Design, New York

This is an approximately 34-mile long addition to MNR's existing fiber optic cable system that will provide full geographic route diversity. Mr. Peer is the supervising engineer for this project that entails aerial, environmental, and field survey, detailed installation design, construction estimating, and construction schedule.

MTA/LIRR East Side Access, New York

As Supervising Communication Engineer/Systems Integrator, Mr. Peer provided general communications systems oversight for this multi-billion dollar tunnel project as part of the project management consultant team. He also designed and managed the systems integration software for this project.

A. Rob Troup, Eng. Tech

Support Expert – Signals and Communications

Mr. Troup has 30 years of experience in the transportation field, including work in signaling and train control systems, communications and trackwork. This experience encompasses design, construction and maintenance of communication and signal networks; design and drafting of signal circuit networks; and inspection of track structures for passenger rail, commuter networks and rapid transit systems.

NJ Transit ASES II

Mr. Troup was Signal Engineer responsible for developing specifications and contract drawings for the wayside portion of NJ Transit's ASES II PTC project. He worked closely with all departments to develop prototype applications and define operating requirements for the PTC installation, coordinated designs with vehicle applications and reviewed all integrated functions, worked closely with Amtrak to insure interoperability with APTC (formally ACSES), and provided coordination for NJ Transit personnel field visits to Amtrak APTC sites and interaction with Amtrak APTC maintenance personnel.

NJ Transit River LINE

As Signal Engineer, Mr. Troup was responsible for the development and installation oversight of the Extended Temporal Separation (ETS) project. He worked closely with NJ Transit and Bombardier personnel in the development of ETS which allowed for short interval time spacing in shared use section between freight and non compliant Light Rail Vehicles. Through application of ETS the LRV and freight windows of operation could be extended to provide increased commercial opportunities for both carriers. This work included development of all interfacing of the system with vital microprocessors and grade crossing warning systems. In addition provided FRA waiver information and development of waiver process.

NICTD Signal Rehabilitation

Mr. Troup was Signal Engineer responsible for the NICTD signal rehabilitation project, which involved the study of various train protection and operating control systems. He utilized cost studies, value engineering, operational planning, and system applicability, reliability, and efficiency to provide recommendations. Upon NICTD's review and approval of recommended system, he provided detailed specifications and contract drawings for contract award and bid. Mr. Troup also provided engineering estimates for construction and maintenance estimates and mancounts to support new signal system.

Education:

B.S., Project Management, Columbia Southern University, Comprehensive Electronics Technical Certificate, 1987

Electronics Technology, Delaware Community College

Registrations:

Engineering Technician (Eng. Tech): UK Engineering Council

Employment History:

SYSTRA, 1995-present

Amtrak, 1979-1995

NJ Transit Newark City Subway, Newark, New Jersey

As Signal Engineer, Mr. Troup provided technical specifications and drawings for the resignaling project of the Newark City Subway from Penn Station to Franklin and the Grove Street extension. Specifications provided technical descriptions of vital microprocessor systems, VETAG train identification, communication systems, non-vital control mechanisms, cable routing and attachments, grade crossing controls, cab signal equipment utilizing AF track circuit technology, and standard wayside equipment drawings. In addition specifications detailed operational characteristics for automatic train routing for “Franklin turnbacks,” “Grove Street,” “Yard” and “NERL” routes. Design provided value engineering and integration to provide the most efficient methods of construction. Design integrated “proposed” enhancements to enable cost effective expenditure of funding. Mr. Troup also provided detailed construction cost estimates for various types of systems to provide comprehensive evaluation of the most cost-effective and efficient system.

David R. Prichard

Support Expert - Signals & Communication

Senior Project Manager - Signals responsible for providing technical oversight and project management. Also responsible for performing quiet zone studies, preliminary design, construction staging, cost estimating, and design tasks.

New Jersey Transit, Northern Branch Quiet Zone Survey, Hudson and Bergen Counties, NJ

Senior Project Manager - Signals responsible for conducting a conceptual engineering survey of 33 at-grade crossings to identify potential risks while assuring that a proposed quiet zone can meet the requirements of the Federal Railroad Administration.

New Jersey Transit, Portal Bridge Capacity Improvement, Newark, NJ

Senior Project Manager - Signals responsible for providing preliminary engineering services for the development of a signal system from Kearny Junction to the Access to the Region's Core Tunnel project. The project consists of construction staging, power calculations, estimating, constructability of interlocking apparatus, routing of communications and signals cables for 3 miles, seven interlockings, and the elimination of a drawbridge on Amtrak's Northeast Corridor. Responsible for developing and strategizing the construction staging while maintaining two tracks during each phase of work.

National Railroad Passenger Corporation (Amtrak), Niantic River Bridge Replacement, Niantic, CT

Senior Project Manager - Signals responsible for providing communications and signals construction coordination and design, specifications, and drawings to be included in the contract bid documents.

New Jersey Transit (NJT), Advanced Speed Enforcement System (ASES), Newark, NJ

Assistant Project Manager responsible for providing engineering and construction assistance services for the implementation of an ASES on NJT's commuter rail network. Tasks involve providing direction on the functionality of the system for adherence to Federal Railroad Administration regulations and working with the contractor to develop and test subsystem modifications for improved reliability and

Education:

Railroad Emergency Response, Hazardous Materials, Safety Systems Emergency Response School, 1987

Project Management Seminar, Fred Pryor Seminars, 1993

Personal Empowerment Seminar, New Jersey Transit, 1996

Leadership Seminar, New Jersey Transit, 1996

Practical Occupational Health & Safety Management Course, Environmental & Occupational Health Sciences Institute, 1997

Managing Multiple Priorities, Projects and Deadlines, New Jersey Transit, 1997

Electronic Theory, Cleveland Institute of Technology, 1998

Employment History:

Gannett Fleming
2005 - Present

Edwards & Kelcey
2002 – 2005

New Jersey Transit
1971 – 2002

performance without compromising safety. Provides technical oversight to the Project Manager and supports NJT on the development and preparation of specifications for the implementation of a positive train control system, which complies with the Rail Safety Improvement Act H.R. 2095. Coordinates team efforts in the advancement and migration to the new ASES II project.

Prior Experience

Northern Indiana Commuter Transportation District, South Shore Line Signal Rehabilitation Project, Michigan City, IN

Construction Manager responsible for providing design review and construction management services for a 75-mile line from South Bend to Metropolitan Rail Corporation's Kensington Interlocking. Tasks included construction management for installation of 15 processor interlockings; renewal of 42 railroad-crossing warning devices; installation of a new control center; installation of a fiber optic network for the entire line; and electrocoding track circuits. Also provided input on the development of a configuration management system.

Metro Transit, Hiawatha Light Rail System, Minneapolis, MN

Manager responsible for redesigning the rail signal system taking trains into the Mall of America using two interlockings and various grade crossings with traffic signal interfacing and preemption. Performed system-integrated tests from Minneapolis to Fort Snelling. Verified that the grade-crossing warning detection met requirements and interfaced with traffic signals requiring proper clear-outs. Verified the control center functionality with field appliances. Tested train-to-wayside loops to determine that they functioned properly.

Southeastern Pennsylvania Transportation Authority, Market-Frankford Line, Philadelphia, PA

Construction Manager responsible for providing equipment installation oversight for the contractor for the entire line from the Frankford Transportation Center to 69th Street.

New Jersey Transit, Lackawanna Cut-Off, Newark, NJ

Manager responsible for providing conceptual design and estimated costs for reactivation of commuter services extending 90 miles from Landing, New Jersey, to Scranton, Pennsylvania. Developed strategies and an effective approach to restore service and provide for future upgrades in operations.

Benjamin Stell, PE

Support Expert – Traction Power

Mr. Stell is a specialist in the planning, design and construction of railway electrical systems. His 25 years of professional experience includes system planning studies for electrified railway traction, signal and auxiliary power as well as for utility and industrial power distribution systems. His extensive systems planning experience has been complemented by numerous electrified railway design projects performed for Amtrak and diverse rail transportation authorities, including design of indoor and outdoor traction power substations and power distribution for ac-electrified passenger and commuter rail, and dc-powered heavy rail, light rail, electric trolleybus and automated people mover (APM) systems. Mr. Stell has served in the past as a railway power systems engineering department manager for two large consulting firms, during which time he regularly reviewed the work of others for technical accuracy and for quality system compliance; this work has included providing responsible charge and review of signal, signal power and SCADA system designs. He is also active in IEEE and AREMA technical committee work, developing standards for traction power equipment design and operation. Mr. Stell's professional experience includes the following representative projects:

PANY&NJ PATH, Replacement and Upgrade of PATH Substation No. 8, Newark, NJ

Mr. Stell is the Lead Traction Power Engineer responsible for the planning and design of a new double-ended 650 Vdc traction power substation on the site of the existing Substation No. 8. Alternative equipment and building arrangements are being explored utilizing a variety of equipment types to enable the new substation to fit on the existing site without interruptions of traction power or revenue service. The substation will be equipped with dual 2 MW, 12 pulse rectifiers and 27.6 kV supply feeders.

PANY&NJ PATH, Trans-Hudson Express (THE) Tunnel, Washington Street Substation Relocation Study, Jersey City, NJ

Mr. Stell directed this conceptual engineering study and cost estimating associated with the relocation of a major PATH traction power substation. Relocation of this substation, which also included a large 27 kV switching station, will facilitate commercial development of a historic powerhouse building in Jersey City.

NJ Transit Trans-Hudson Express (THE) Tunnel Project, NJ & NY

Mr. Stell is Lead Traction Power Engineer responsible for the planning

Education:

M.S., Electrical Engineering (Power Systems), Northeastern University, 1994

B.S., Electrical Engineering (Power Systems), Northeastern University, 1985

B.A., Liberal Arts, Washington University, 1978

Registrations:

Professional Engineer, New York

Professional Engineer, New Jersey

Professional Engineer, Pennsylvania

Professional Engineer, California,

Professional Engineer, DC,

Professional Engineer, Florida,

Professional Engineer, Georgia, Professional Engineer, Ohio,

Professional Engineer, Louisiana, Professional Engineer, Illinois, Professional Engineer, Maryland

Professional Engineer, Massachusetts

Employment History:

SYSTRA Consulting, Inc., 2008 – present

HNTB, 2008, 1996-2004

Parsons Brinckerhoff, 2004-2008

R.W. Beck, Inc. 1991-1996; 1985-1989

PLM Electric Power Engineering, Inc. 1989-1991

Commonwealth Electrical Company, 1984

and final design of the 2 x 27.6 kV, 60 Hz traction electrification system (TES) associated with a new extension of the NJ TRANSIT rail system under the Hudson River into New York City. The proposed TES includes a 230 kV utility interconnection substation, a main supply substation, two 55.2/27.6 kV autotransformer stations, and interconnections with Amtrak's existing 12 kV, 25 Hz traction power system.

LIRR JO Interlocking Third Rail Design and Construction, New York, NY

As Project Engineer, Mr. Stell led the JO Interlocking third rail design and construction project at Penn Station in NY. He provided design, construction sequencing and construction inspection assistance for the complex third rail and DC traction power distribution system modifications associated with this reconfiguration project. Work included detailed layout of all 700 Vdc third rail and jumper cable circuits at the lower east end of the station to accommodate the phased removal and replacement of track and switches during 55-hour weekend outages.

Amtrak Electrolysis and Grounding and Bonding Investigation for Penn Station, NY and the New York Tunnels

Mr. Stell is Project Manager and Lead Traction Power Engineer responsible for a study of stray dc current (electrolysis) conditions, equipment and mitigation, and grounding and bonding in Penn Station, NY and the six connecting tunnels. This portion of Amtrak's system is the only location in the U.S. where trains powered by 700 Vdc contact rail and 12 kV, 25 Hz catenary operate on the same tracks with common negative/neutral return systems.

Brandon Swartley, PE

Support Expert – Traction Power

Education:

M.S., Electrical Engineering (Power Systems), Drexel University, 1999

B.S., Electrical Engineering, Drexel University, 1994

Registrations:

Registered Professional Engineer: NJ, NY, and PA

Employment History:

SYSTRA, 2008-present

PSEG Nuclear, LLC, 2004-2008

Stone and Webster Engineering Corporation, 1994-2004

Mr. Swartley is a Senior Electrical Traction Power Engineer at SYSTRA Consulting, Inc., in the Philadelphia office, with over sixteen years of experience in the field of electrical power systems. His work has focused on computerized system simulations using PSS/E and ETAP, traction power studies, static frequency converter station design, and substation design/construction projects. Prior to joining SYSTRA, he was employed by PSEG Nuclear for four years and served as Principal Electrical Design Engineer and Acting Electrical Design Engineering Manager at the Hope Creek Nuclear Generating Station. He was responsible for design changes, troubleshooting, and technical oversight of the 500 kV switchyard, 13.8 kV distribution system, and 4.16 kV switchgear. He spent ten years at Stone and Webster Engineering Corporation preparing power system calculations, writing equipment specifications, and designing distribution and lighting systems for commercial, industrial, and nuclear power plant projects.

PANYNJ PATH Substation 8 Replacement

As Senior Traction Power Engineer, Mr. Swartley prepared electrical design criteria and installation sequencing drawings for the construction of a new traction power substation. This substation consisted of two 2 MW, 12-pulse rectifiers, 38 kV ac switchgear, 750 V dc switchgear, and all associated auxiliary systems. Mr. Swartley was responsible for the conceptual design and layout of all electrical equipment, including equipment dimensions and ratings.

Metro-North Railroad RAILSIM Model Update

As Senior Traction Power Engineer, Mr. Swartley reviewed bulletins for changes to Harlem & Hudson and New Haven lines that affect the RAILSIM track and electrical models. He prepared changes to RAILSIM databases to incorporate track modifications.

Amtrak Hackensack Substation 42 and Phase Break Modifications, NJ (2008)

As Senior Traction Power Engineer, Mr. Swartley performed engineering reviews of sectionalizing plans, wiring plans, catenary profiles, and structure erection diagrams.

Amtrak Grove Interlocking, MD

As Senior Traction Power Engineer, Mr. Swartley performed engineering reviews of sectionalizing plans, wiring plans, catenary profiles, and structure erection diagrams for reconfiguration of interlocking.

Amtrak Station Improvements, Baltimore-Penn and Washington-Union

As Senior Traction Power Engineer, Mr. Swartley prepared electrical design drawings, calculations, and specifications to upgrade train platform lighting and power distribution at various Amtrak stations.

PSEG Hope Creek Nuclear Generating Station, Calculation Assessment (2009)

As Senior Electrical Engineer, Mr. Swartley worked with PSEG Nuclear's Corporate Engineering Services Department to perform an assessment of both safety (Class 1E) and non-safety related electrical design calculations for the Hope Creek Generating Station. NRC quarterly inspection findings at other US nuclear power plants and information notices were reviewed to document industry operating experience. Based on these findings, specific PSEG work centers and benchmarking reports were reviewed for outstanding work assignments and unresolved issues. The assessment identified several open items and deficiencies with the Hope Creek electrical design calculations based on a review of the plant's work management (SAP) and records management systems (DCRMS). The aggregate impact of the assessment was presented to the station's management.

Michael Maziarz, PE

Support Expert – Traction Power

Michael Maziarz, PE has more than 27 years of electrical engineering experience involving a wide variety of engineering assignments including design engineering, generation station maintenance to campus utility master planning. As the Manager of the Electrical Engineering Department, he is responsible for the management of the group and the development and execution of business. Mr. Maziarz has successfully managed daily electrical department maintenance activities and multi-million dollar projects. His most recent assignments have been in the railroad and transit facilities sector. He has provided designs for traction and signal power, 60 Hz power, bonding and grounding, fire alarm and lighting systems. Mr. Maziarz' work spans substations, rail and transit shops, yards and passenger stations. He was a CONECTIV employee for nearly 20 years and therefore has extensive experience in electrical distribution, generation, PLC's and DCS control systems. Mr. Maziars' professional experience includes the following representative projects:

PANY&NJ Corbin Street Intermodal, New Jersey

Mr. Maziarz is Lead Electrical Engineer responsible for the design of the electrical service, distribution and lighting for major Intermodal facility improvement. This site is approximately two miles long and utilizes high mast lighting and several services.

PANY&NJ World Trade Center Site Shed Lighting, New Jersey

As Lead Electrical Engineer, Mr. Maziarz is responsible for the design of shed lighting (along train routing) in former World Trade Center Site.

Metro-North Railroad Harlem-Hudson Line Capacity Enhancement, New York, NY

Mr. Maziarz is Lead Electrical Engineer responsible for preliminary engineering for three traction power substations. Project tasks include expanding an existing underground (beneath Park Avenue in Manhattan) substation, property investigation, the development of custom substation layouts to facilitate unique property characteristics and the installation of Linear Reactors.

Moynihan Station Development Corporation, New York, NY

As Lead Electrical Engineer, Mr. Maziarz is responsible for the commercial electrical engineering in Penn Station, NY for the Farley/ Moynihan Station Development. The work includes modifications and relocations for railroad systems including platform lighting and distribution systems.

Education:

B.S., Electrical Engineering, Villanova University, Villanova, PA, 1977-1981

33 credits toward an M.S. in

Electrical Engineering, Drexel University, Philadelphia, PA

Registrations:

Professional Engineer, New York

Professional Engineer, New Jersey

Professional Engineer, Pennsylvania

Professional Engineer, Massachusetts

Employment History:

SYSTRA Consulting, Inc., 2002 – present

Rowan University, 2000 – 2002

CONECTIV, 1981 – 1999

US Army, 1973 -1976

NYCT 207th Street Overhaul Shop Renovation (DC systems only), New York

Mr. Maziarz is Lead Electrical Engineer responsible for the design of DC (traction-hotel power) distribution and stray current control systems in this subway car overhaul shop.

Amtrak State of Good Repair and ADA Station Survey Assessments

Mr. Maziarz is the Senior Engineer responsible for detailed station assessments of 214 Amtrak passenger stations located in the central, southern and western regions of the country. Each station is being surveyed to evaluate the condition of all components of the station buildings, platforms and site as well as ADA compliance.

Amtrak Final Design of Station Improvements at BWI Station, Baltimore Penn Station, and Washington Union Station, Washington D.C. and Maryland

As Lead Electrical Engineer, Mr. Maziarz was responsible for electrical distribution, lighting and fire alarm design for three stations along the north east corridor. BWI station design includes 100% diesel generator backup, emergency UPS, grounding and bonding design. All improvements were to be made while maintaining rail and passenger operations at fully functioning stations.

NJ Transit Metropark Station Grounding and Bonding Design, New Jersey

Mr. Maziarz was Lead Electrical Engineer responsible for the design of the 25 HZ rail return bonding system. He consulted with NJ Transit electrical engineers to develop an integrated and coordinated design approach with the 60 HZ grounding system.

Edward F. Nicholson, PE

Support Expert - Facilities, Civil & Track / Rail Operations

Mr. Nicholson will serve as a suppor expert for the Port Authority contract. He is a Professional Engineer with over 30 years of experience in all phases of rail rapid transit systems. Mr. Nicholson provided project management oversight to major transit authorities, and has overseen the planning, design and construction of capital projects for several major city transit agencies, including New York City Transit Authority and the Port Authority of New York and New Jersey. He has overseen the purchase of new railcars, the design and construction of rail control centers, rehabilitation of major stations, shops and yards, as well as bridge and tunnel rehabilitation projects. Mr. Nicholson managed the Port Authority Trans-Hudson's (PATH) Transportation Division, as well as their Signals and Communications Division, and was named as Port Authority Transportation Person of the Year in 1996.

Port Authority of NY & NJ, PATH Station Reconstructing, World Trade Center, NY

Mr. Nicholson provided technical support for the restoration of PATH rail service between New Jersey and lower Manhattan. On this project, Mr. Nicholson was part of the program management team overseeing the design and construction of a new rail transit terminal on the site of the former World Trade Center PATH station. In addition, he supported the design and installation of new power, signal and communications systems to replace those destroyed in the attack on September 11, 2001. Mr. Nicholson also provided technical support in the negotiation of insurance and FEMA claims for PATH.

Federal Transit Administration (FTA), Washington Metropolitan Area Transit Authority (WMATA) Phase II, Washington, DC

Hill was retained to provide project management oversight services to FTA for the Washington Area Transit Authority and the Virginia Department of Rail and Public Transportation Major Capital projects. Mr. Nicholson performs oversight and technical review of systems for WMATA's "Metro Matters" Program.

South Florida Regional Transportation Authority, Phase II, Federal Transit Administration (FTA), Miami, FL

Hill was retained to provide project management oversight (PMO) services to FTA. Mr. Nicholson performs oversight and technical review for the double tracking of 43 miles of tri-rail commuter rail line in Palm Beach, and Broward and Dade Counties.

Education:

M.S., Transportation, Polytechnic University of New York, 1973

M.S., Electrical Engineering, New York University, 1969

B.E., Electrical Engineering, Manhattan College, 1965

Registrations:

Professional Engineer, Connecticut

Employment History:

Hill International, Inc., 2001-Present

NY Metropolitan Transportation Authority, 1997-2001

Port Authority Trans-Hudson Corp, 1965-1997

MTA, Independent Review, New York, NY

As the Program Manager, Mr. Nicholson oversaw the planning, design and construction of capital projects for the NYMTA's three major transit systems: the New York City Transit Authority (NYCTA), the Long Island Railroad (LIRR) and Metro-North Railroad (MNR), as well as its Bridges and Tunnels Agency. Examples of the programs that he oversaw include the purchase of new railcars; the design and construction of a new rail control center with a new centralized train control system and new Communication Based Train Control System; the design and implementation of direct LIRR train service into Grand Central Station; and the rehabilitation of major stations, shops, and yards, as well as bridge and tunnel rehabilitation projects.

New York Metropolitan Transportation Agency (MTA), Independent Engineer's Certification Program, New York, NY

Mr. Nicholson was Deputy Project Manager of the team performing analysis of NYCTA, LIRR and MNR system maintenance, inspection and repair program plans and budgets and certifying whether the program plans and budgets were adequate to maintain the system in good repair.

Prior Experience

Port Authority Trans-Hudson Corporation PATH, Superintendent of Transportation

As Superintendent of Transportation, Mr. Nicholson managed a staff of 460 people, and was responsible for all train operations on PATH, a rail rapid transit system operating between New Jersey and New York City, with a ridership of over 60 million passengers a year. His responsibilities included train operations, fare revenue collection, passenger information and assistance, budget development of $40 million annually, staffing, coordination and emergency response activities. A number of major capital projects were also completed successfully, including a new rail car maintenance facility, a new emergency ventilation system, a railcar overhaul program, and a new centralized fare collection system.

Port Authority Trans-Hudson Corporation PATH, Superintendent of Signals and Communication

Mr. Nicholson managed a staff of 100 people and was responsible for all design, construction and maintenance activities relating to signal and communications systems. He was also directly responsible for developing and integrating sophisticated technological improvements into PATH's operations. Mr. Nicholson also provided oversight and direction during the design and successful completion of several major projects.

Various Projects, Port Authority Trans-Hudson Corporation PATH, Senior Rail Planning Engineer

As Senior Rail Planning Engineer, Mr. Nicholson served as Assistant Project Manager for the PATH control center project and was responsible for development of electrical and communications systems integration, including radio, CCTV, emergency and passenger assistance telephones and remote control systems.

Joseph Bonsignore, PE

Support Expert – Facilities, Civil and Track

Mr. Bonsignore has 19 years of experience in rail and transit engineering, encompassing a wide range of railroad engineering, maintenance, and rehabilitation. His responsibilities on railway and transit engineering projects have included design supervision and project management, construction supervision, planning, estimating, preparation of track-work procurement documents, installation specifications, and computerized drafting and design. Mr. Bonsignore's project work has included commuter and freight rail lines, storage and maintenance yards, subways, elevated rail systems and automated guideway transit (AGT) systems. Mr. Bonsignore's professional experience includes the following representative projects:

PANY&NJ PATH Tunnels A&B Contact Rail Design, New York and New Jersey

Mr. Bonsignore was Project Manager responsible for managing final track design to develop custom contact rail and coverboard brackets for tightly constrained PATH tunnels where old style 75# rail is being replaced with new 84C steel/aluminum composite rail. Design included custom mounting details and rotation of contact rail to achieve required clearances to tunnel ring structure.

PANY&NJ Corbin Street Intermodal Rail Facility, Port Newark, NJ

Mr. Bonsignore served as Project Manager responsible for preliminary design of a new intermodal rail facility in Port Newark and Elizabeth, NJ. The project included significant utility investigation and relocation, design of approximately 70,000 feet of new track, three new ballasted deck bridges, civil drainage and pavement design, site lighting and electrical design, compressed air system mechanical design, construction staging, scheduling and estimating. The facility is to be operated by and required coordination with CSX, NS, and Conrail.

PANY&NJ Turnout Replacement Phase IIB Junctions

As Project Manager, Mr. Bonsignore was responsible for preliminary and final design of complex turnout geometry for replacement of turnouts at four critical junctions in the PATH tunnels in NJ. The project included survey coordination and regression analysis of high-precision survey data taken from confined tunnel environment. The project included design of four fully-guarded custom turnouts and preparation of procurement documents and preparation of plan and profile drawings for minor realignment work and installation of turnouts by force account labor. SYSTRA is also providing shop drawing review.

Education:

B.S., Civil Engineering Technology, New Jersey Institute of Technology, Newark, NJ, 1990

Certificate, Institute for Railroad Engineering, Wilmington, DE, 1991

Registrations:

Professional Engineer, New York

Professional Engineer, New Jersey

Professional Engineer, Pennsylvania

Professional Engineer, Connecticut

Professional Engineer, Maine

Employment History:

SYSTRA Consulting, Inc., 2001 – present

Parsons Brinckerhoff, 1998 – 2001

Railroad Construction Co., 1989 – 1993

PANY&NJ PATH Tunnels E and F Rehabilitation, New York, NY

Mr. Bonsignore was Project Manager responsible for major track and systems replacement following the WTC disaster. Project elements included replacement of the existing track, traction power, electrical, and communication systems in Tunnels E and F under the Hudson River. The project also included similar work elements in Exchange Place Station in Jersey City, NJ. Existing wood tie and ballasted track was replaced with direct fixation track and an 84C composite contact rail system. All work was accelerated to restore service to Jersey City and lower Manhattan in 2003.

PANY&NJ Tyler Street Railroad Upgrade, Port Newark, NJ

As Project Manager, Mr. Bonsignore was responsible for overseeing final track-work design and construction assistance phase of the project, including engineering for a specialized No. 6 lap turnout compatible for use at three separate locations. The project included replacement of over a mile and a half of track, 18 turnouts, and several heavily used at-grade crossings. Mr. Bonsignore also prepared final construction cost estimate.

PANY&NJ Airport Access Program (AAP), New York, NY

As Senior Track Engineer, Mr. Bonsignore performed conceptual track alignments for a new elevated and at-grade AGT system extending from the Long Island Rail Road's (LIRR) Jamaica Station to John F. Kennedy International Airport, for the PANY&NJ. He also prepared standard track-work detail drawings for the preliminary design package.

PANY&NJ Access to the Region's Core MIS, New York/New Jersey

As Senior Track Engineer, Mr. Bonsignore performed schematic track alignments during a study to evaluate alternatives for improving commuter and freight access to the core of the New York/ New Jersey metropolitan region - Midtown Manhattan and extensions east and west. The study looked at alternatives that lead to improved accessibility to and across the core for Long Island and New Jersey commuters.

Dennis Fordham, C.Eng

Support Expert – Facilities, Civil and Track

Mr. Fordham has more than 30 years of rail and transit experience, including extensive experience in rail right-of-way (ROW), maintenance facility planning, design, and operation, and station and systems design. As a senior project manager, Mr. Fordham oversees a diverse range of planning and design work for new-start and major rail rehabilitation programs, encompassing maintenance facilities trackwork, traction power, and stations. Before joining SYSTRA, Mr. Fordham led a number of major facility design programs for new and rehabilitated rail shops and yards for the NYCTA, MNR, and ConnDOT, among other clients. He also had an extensive career with the London Underground, holding positions from vehicle design engineer to rail car maintenance facility manager.

NJ Transit General Engineering Contracts, New Jersey

Mr. Fordham is GEC/TOC Project Manager responsible for many design assignments including conceptual and preliminary engineering for the Townley Railroad Station; bridge and other structural engineering design for major station improvements at Paterson; signal and OCS design for the Newark City Subway; various operations simulation assignments; and structural inspection of various out-of-service facilities.

MNR Harlem Line Capacity Study

Mr. Fordham is Project Manger for this project which involves planning, analysis, and concept design for capacity improvements at Fordham Station and between CP 117 to CP 124 (Crestwood to North White Plains) on Metro-North's Harlem Line. At Fordham Station, possible low cost capacity improvements are being investigated as well as alternatives that would require complete reconstruction of the station to provide passenger access to all tracks via island platforms. Various interlocking alternatives north and south of Fordham Station are also being investigated and analyzed. Between CP 117 and CP 124, the addition of a third track is being investigated and analyzed. For all alternatives being developed, order-of-magnitude construction costs are being developed along with review of the constructability issues.

NJ Transit Penn Station New York Enhancement Preliminary Engineering, New York, NY

Mr. Fordham is Task Manager responsible for the project to increase the length of platforms 1 and 2 at Penn Station to accommodate 10-car trains and provide additional passenger access points to these heavily used platform. The main project elements include providing stair

Education:

Higher National Diploma in Mechanical Engineering, South East London College (London, England) 1970

Registrations:

Chartered Engineer (C.Eng), United Kingdom

Employment History:

SYSTRA Consulting, Inc., 1990 – present

ICF Kaiser Engineers, 1985 – 1990

London Transport International,

1982 – 1984

London Regional Transport, 1965 -1985

J. Stone & Company,

1960 - 1965

structures, designing track modifications to provide sufficient clearance for the stair structures to the extended west end concourse, extending tracks 1 through 4 at the east end, and providing additional access stairs and corridor at east end for passenger access and egress. SYSTRA is providing design services for track, electric traction, signaling, communications, and systems integration.

Amtrak GEC Services for High Speed Rail Improvements from New York, NY to Boston, MA

As Project Director, Mr. Fordham led this joint venture task-order contract involving the engineering and design of track realignments, signaling, and bridge replacements, as well as support to Amtrak engineering staff for all aspects of electrification design and implementation.

NYCT Fresh Pond Bus Maintenance Facility, Queens, NY

Mr. Fordham was Project Director for design and construction phase services for a new 55,000-SF maintenance facility for a fleet of 200 buses. The work included design of a 15 bay repair facility, a separate four bay body shop with paint booth, and rehabilitated depot maintenance area. The work also included a sound reducing canopy structure covering a connecting roadway, for the benefit of nearby residents.

MNR Communications and Signal Equipment Repair, Training, and Employee Facility, North White Plains, NY

Mr. Fordham served as Project Manager and Industrial Engineer for design and construction phase services for a new 30,000-SF equipment repair, training, and employee facility at the North White Plains Maintenance Complex. The new facility houses maintenance and training functions for the railroad's Communications and Signals (C&S) Departments and provides offices and welfare facilities for Track and others.

Robert Thomas, PE

Support Expert – Facilities, Civil and Track

Mr. Thomas has more than 30 years of experience in civil engineering and facilities design and Engineering management. He has provided services for site development, master planning, facility design, utility coordination, industrial engineering, and project and construction management. He has been project manager on multi-million dollar facility rehabilitation projects, maintenance facilities and major Department of Defense mission facilities. Mr. Thomas is the assistant vice president and deputy director of right-of-way and facilities, leading corporate facilities engineering in the planning, design (structural and Industrial), and construction management of railroad and transit associated buildings and structures such as maintenance facilities, stations, terminals, parking garages, and associated infrastructure. Mr. Thomas' professional experience includes the following representative projects:

PANY&NJ PATH "Call-In" Track and Civil Engineering Design Services

Mr. Thomas is Task Manager responsible for the design of new track, traction power, electrical, and communication systems in tunnels E and F as part of the PATH Downtown Restoration Program following the WTC disaster. Tunnels E and F are twin bored tunnels under the Hudson River for Exchange Place Station in New Jersey to the World Trade Center in Manhattan.

NYCT LEED Certification Commissioning Services Fulton Street Transit Center

Mr. Thomas is Project Manager responsible for the commissioning services required for LEED certification. This commissioning provides third party validation and documentation, using an established rating and measurement system, of the design intent and environmental performance of key building systems. Three areas of the Energy and Atmosphere (EA) portion of the criteria were considered to include (1) fundamental commissioning of the building energy system (2) measurement and verification and (3) green power. When completed the FSTC will be LEED Silver Certified.

Amtrak State-of-Good Repair, Nationwide

As Project Manager, Mr. Thomas is responsible for the state of good repair and ADA inspections of 200 Amtrak passenger stations in the continental US. This study evaluates the overall condition of the facilities and the facilities accessibility compliance. Study includes facilities

Education:

B.S., Civil Engineering, South Dakota School of Mines and Technology 1971

Registrations:

Professional Engineer, New York

Professional Engineer, Virginia

Professional Engineer, Pennsylvania

Employment History:

SYSTRA Consulting, Inc., 2001 – present

Tobyhannah Army Depot, 1980 – 2001

assessments (structural, mechanical, electrical and architectural), recommendations, and cost estimates for recommended repairs or alterations. The final report will be used for Congressional funding requests and budget formulation.

NJ Transit Northern Bus Maintenance Facility, Clifton, NJ

Mr. Thomas is Senior Facility Design Manager responsible for coordinating and completing the industrial, structural and ventilation design for a new transit bus storage and maintenance facility. This 300,000 SF facility provides a much needed maintenance facility in Northern New Jersey to support NJ Transit's increasing bus operations. The facility will provide indoor storage space for 250 vehicles as well as service, maintenance, administration and parking areas. This state-of-the-art facility will eliminate the constraints to effective vehicle maintenance and storage for the 250 buses running on local routes in Bergen and Passaic counties as well commuter routes to New York City.

NJ Transit Hilton Bus Garage and GOB Parking Facility

As Project Manager, Mr. Thomas was responsible for the structural condition assessment and rehabilitation of the parking deck above the Hilton Bus Garage and the GOB parking facility in Maplewood, NJ. This study provided an evaluation of the structural integrity of the precast concrete structures, architectural finishes and mechanical and electrical systems. Failure mechanisms, condition evaluations and remedial methods were identified. The final report provided recommendations for structure rehabilitation, project costs and a prioritized schedule of work.

Greg J. Nazarow

Support Expert - Rail Operations

Senior Rail Operations Analyst responsible for evaluating a wide range of issues relative to existing capacity and requirements, operational constraints, line, railyard and station configuration, and right-of-way and signal system improvements. Experienced in railroad and rail transit infrastructure and operations evaluations, planning, and analysis. Develops network operations simulations, particularly those for testing rail operating plans and physical plant modifications. Has significant experience in developing financial models.

South Florida Regional Transportation Authority (SFTRA), System Network Simulation, FL

Senior Rail Operations Analyst responsible for building, testing, and debugging a complete network simulation model using Rail Traffic Controller (RTC) software. The SFRTA is responsible for managing and operating daily Tri-Rail commuter/regional rail service between Mangonia Park (West Palm Beach area) and Miami Airport and 16 intermediate stations. SFRTA shares right-of-way with freight trains operated by CSX and intercity passenger trains operated by Amtrak. The simulation model included main track, key secondary track, grade crossings, interlockings, permanent speed restrictions, signal system emulation, and scheduled trains.

New York City Economic Development Corporation, Moynihan Station Study, New York, NY

Senior Rail Operations Analyst responsible for providing expert advice and counsel to the City of New York pursuant to the redevelopment of the former Farley Post Office Building as part of a revitalized Penn Station complex. The anticipated facility will include expanded, improved, and reconfigured public facilities, railroad offices/ticketing, and commercial/ retail space.

New Jersey Transit/AKRF, Portal Bridge Capacity Enhancements, Newark, NJ

Senior Rail Operations Analyst responsible for screening alignment alternatives for operability and analyzing their capacity to support the anticipated Year 2030 operating plan through rail network operations simulation. Tasks include reviewing and analyzing anticipated construction staging strategies using network simulation and other techniques to confirm constructability under the heavy rail traffic characteristic of this segment of Amtrak's Northeast Corridor.

Education:

B.S., Mechanical Engineering (Cum Laude), Tufts University, 1983

M.B.A., Business Administration, Babson College, 1988

Employment History:

Gannett Fleming
2005 – Present

Systra Consulting
1994 – 2004

Independent Railroad Marketing Consultant
1991 – 1994

Energy Answers Corporation

1989 – 1991

Gillette Company
1983 - 1987

Prior Experience

Port Authority Trans-Hudson (PATH), Signals and Railcar Capacity Analysis, New York, NY

Rail Operations Analyst responsible for leading an operations analysis using RAILSIM® to quantitatively determine capacity changes (trains per hour) on each route segment that would be realized by migrating to a proposed new train control system. Performed the analysis by generating preliminary signal block layouts using RAILSIM® Signal Designer, applying the block layouts to network simulation, and testing for capacity saturation. Also assisted in developing specifications for proposed new railcars.

Port Authority Trans-Hudson (PATH), Restoration Effort for Tunnels E&F, New York, NY

Rail Operations Analyst responsible for developing and analyzing a signal block layout design for the restoration of PATH service to the World Trade Center (WTC) following the attacks of September 11, 2001. The design included a new universal crossover facility using Tunnel L at Exchange Place to support the operation of Exchange Place as a terminal station, pending completion of a new, temporary WTC station facility. Also coordinated with a PATH project to lengthen the platforms at Exchange Place Station to accommodate 10-car trains.

Port Authority Trans-Hudson (PATH), World Trade Center (WTC) Temporary Station, New York, NY

Rail Operations Analyst responsible for developing, analyzing, and documenting signal block layout design for the construction of a temporary station facility at the WTC site to support the restoration of PATH service following the attacks of September 11, 2001. The facility was successfully opened in November 2003.

Port Authority Trans-Hudson (PATH), Exchange Place Station Operations Analysis, New York, NY

Director of Operations Analyst working on a fast-tracked development and detailed analysis of RAILSIM® network simulation models to determine the feasibility of a proposed PATH operating plan to support the restoration of service to Exchange Place Station following the World Trade Center attacks of September 11, 2001. The analysis included a detailed review of the feasibility of temporarily operating the station as a stub terminal. Service was successfully restored in mid-2003.

Daniel P. Truesdell

Support Expert - Rail Operations

Rail Operations Analyst responsible for evaluating a wide range of issues relative to existing capacity and requirements, operational constraints, line, rail yard and station configuration, and right-of-way and signal system improvements. Has significant experience in software development, including rail operations software and electric load flow simulation.

New Jersey Transit/AKRF, Inc., Portal Bridge Capacity Enhancement, Newark, NJ

Rail Operations Analyst responsible for analyzing operating plans in simulation to support the construction staging required to reconfigure track, signal, and catenary systems to permit the replacement of the Portal Bridge crossing the Hackensack River.

North Carolina Department of Transportation, Charlotte Railroad Improvement and Safety Project (CRISP), Charlotte, NC

Rail Operations Analyst responsible for developing and analyzing a rail traffic controller network simulation model of Norfolk Southern and North Carolina Railroad alignment for a proposed passenger rail and intermodal facility for downtown Charlotte. Tasks include simulating the modeling of future passenger and freight rail traffic forecasts to Year 2020.

Prior Experience

The RightThing Inc., Wilder, VT

Manager of Partner Integration responsible for managing the company's more than 100 third-party relationships. The position required implementing both logistical and technical integration pieces. Managed existing software integration infrastructure, including the development of software tools necessary for operational and integration efficiency. Director of Development responsible for the planning and implementation of the company's SourcePoint Web-based resume aggregation application, their flagship software product.

SYSTRA Consulting, Lebanon, NH

Director of Software Development responsible for the company's software development staff. Spearheaded the redesign and subsequent development of the company's flagship Railroad Network Simulation (RAILSIM) software. The effort incorporated both multi-threaded and client-server technologies. Implemented the Passenger Flow model into

Education:

B.S., Mechanical Engineering, University of Vermont, 1985

Employment History:

Gannett Fleming
2009 - Present

The Right Thing Inc.
2006 – 2009

Systra Consulting 1993-1996; 2004 -2006

CEA Software, LLC
2000-2004

Fluent, Inc. 1996 - 2000

the existing network simulator. Developed and implemented the company's automated software test framework.

CEA Software, LLC, Claremont, NH

LLC Manager and Member/Principal Developer responsible for all aspects of the company's operations.

- **DC and AC Electric Load Flow Analysis Program, Lebanon, NH, SYSTRA Consulting.** Principal Software Designer working with the client to develop the requirements for software to simulate the electric load flow for DC and AC rail transit systems. Designed and implemented both graphical user interface and electrical network solver using MS VC++.
- **Smoke Simulation in Subway Tunnel, Lebanon, NH, Inductive Research.** Principal Developer responsible for developing C++ plug-ins for Discreet's 3ds Max visualization package to allow users to render smoke in a scene using data captured from Fluent computational fluid dynamics solutions. The application also allows users to display contour plots of user-selected scalars on selected surfaces. Both smoke and contour surface rendering can either be a single frame or a time-based animation.
- **Cooling Tower Configuration Program, Kansas City, KS, Elogic Group.** Principal Developer responsible for developing a JSP/servlet-based (WebSphere) Web application allowing the configuration of wood-framed cooling towers. Bills of material and AutoCAD scripts were generated for the user based on the configuration selected.
- **Mixing Tank Sizing and Configuration, Rochester, NY, Elogic Group.** Principal Developer responsible for developing a JSP/servlet-based package designed to capture and analyze mixing tank configuration parameters. A Web-based user interface allowed the users to specify some or all required constraints. The program would then select a configuration based on the given parameters and any derived constraints. The application used a database server (MySQL) to handle configuration parameter relationships as well as customer records.

Joseph Black

Support Expert – Rail Operations

Mr. Black has over 20 years of rail transportation experience, and is a key member of SYSTRA's rail operations analysis team. He is responsible for developing rail network simulation models, performing rail operations planning functions, and performing analyses with the RAILSIM® Simulation Software Suite, in addition to managing the Rail Operations practice in the Philadelphia office. Mr. Black is a RAILSIM instructor, and has designed and taught classes on the software suite to a number of internal and external clients, including NYC Transit, Amtrak, and SEPTA.

Education:

B.A., Political Science, Villanova University

M.S., Transportation, University of Pennsylvania – Matriculated (5 credits)

Employment History:

SYSTRA Consulting, Inc., 1999-2008, 2009 – present

NICTD, 2008 – 2009

SEPTA, 1991 – 1999

PANY&NJ PATH New Railcar and Signal System Project, NY

As Senior Rail Operations Analyst and Operations Discipline Lead , Mr. Black worked with a joint venture team to study the installation of new technology signal systems on the PATH system, including digital track circuit cab signals and communications-based train control (CBTC). He served as the Rail Operations project lead on this project, working to quantify wayside signal system baseline capacity and signal delay on the PATH rail network, and projected capacity and signal delay under proposed future signal systems. This project involved building a network simulation model of the entire PATH system, providing systems engineering services as part of PATH's program to add new PA-5 cars to its fleet and to implement a system-wide replacement of its train control system. The new train control system will feature electronic track circuits and Automatic Train Control (ATC), a significant departure from the wayside signaling and extensive use of timed signal speed control presently in service. The Rail Operations team also evaluated the use of Automatic Train Operation (ATO) and CBTC.

LIRR East Side Access Project Phases I and II, NY

As Senior Rail Operations Analyst, Mr. Black worked on the consultant team developing simulation models of the proposed connection of the Long Island Rail Road to Grand Central Terminal. The team performed analyses of the operating plan proposed for the connection, including alternate track and signal configurations. The simulation analyses included evaluation of related LIRR infrastructure improvements, including reconfiguration of the Jamaica Station Complex. The team also developed a proposed Year 2020 Operating Plan for the Long Island Rail Road. This operating plan is comprised of over 1,000 trains per weekday operating on over 700 miles of track and serving over 100 stations.

MBTA South Coast Rail Study

As Manager, Rail Operations and Co-Project Lead, Mr. Black worked with a rail operations team to evaluate 2030 No Build and two Build infrastructure scenarios to bring MBTA commuter rail service to the southern Massachusetts towns of New Bedford and Fall River. He evaluated operating plans, directed rail operations analysis personnel in performing network simulation analyses of the alternatives, and participated in writing and editing the project technical memorandum.

MTA Lower Manhattan Access Study and MESA Study

Mr. Black served as Senior Rail Operations Analyst, conducting various TPC studies to support the team analyzing alternatives for providing a faster transit trip between Queens and Lower Manhattan in New York City, including the Super Z Analysis and the 125th Street Terminal Capacity Analysis. During the Super Z Analysis, He developed a methodology for populating a schedule spreadsheet using Microsoft Excel formulas driven by a run-time library table derived from TPC runs. In addition, Mr. Black conducted TPC simulation calibration by coordinating observation rides on NYCT lines and adjusting TPC input data and parameters to fit observed run times and dwell times.

NYCT Lexington Avenue and Queens Boulevard Simulations, New York

As Senior Rail Operations Analyst, Mr. Black worked with an operations analysis team developing various simulation models to determine the feasibility of retaining G Line service on the Queens Boulevard subway line. NYCT had planned to discontinue G service to Forest Hills, when through service via the 63 Street Connector commenced. The team's analysis confirmed NYCT's opinion that this would not be a viable option. Mr. Black was responsible for input, testing, and optimization of one of four operating scenarios on the line.

Davis Dure

Support Expert – Rail Operations

Mr. Dure has broad-based rail operations experience as a result of his diverse assignments as a consultant and a former member of both the NJ Transit Rail Service Planning and Transportation Departments. He currently leads the SYSTRA New York operations analysis group in a variety of rail simulation and capacity analysis work. Mr. Dure's professional experience includes the following representative projects:

PANY&NJ PATH Railcar and Signal System, New York, NY

Mr. Dure was Rail Operations Analyst responsible for providing support on the baseline effort for the PATH network. SYSTRA provided systems engineering services as part of PATH's program to add a new PA-5 car fleet and to implement a system-wide replacement of its train control system. The new train control system will feature electronic track circuits, Automatic Train Control (ATC) and manned Automatic Train Operation (ATO), a significant departure from the wayside signaling and extensive use of timed signal speed control presently in service. To quantify the capacity and travel time benefits of the new ATC system, SYSTRA applied its RAILSIM Simulation Software Suite to the development of simulation models of both existing and proposed PATH configurations.

Lower Manhattan Commuter and Airport Access Alternatives Analysis, Lower Manhattan Development Corp., New York, NY

As Rail Network Simulation Leader, Mr. Dure was responsible for effort to assess the feasibility and regional benefits of creating more direct rail transit connections between Lower Manhattan, the LIRR system and JFK. Working as part of the joint venture to perform the alternatives analysis in six months, SYSTRA worked with the historic collaboration of the Lower Manhattan Development Corporation, the Metropolitan Transportation Authority, the PANYNJ and the New York City Economic Development Corporation. Mr. Dure led the simulation analysis of rail capacity for both Airport and Long Island commuter-focused services, evaluating a new East River crossing as well as the use of an existing NYCT river crossing. SYSTRA used its RAILSIM® Network Simulator for the task, since the alternative involved an operational interface with a complex network of subway lines through a capacity-constrained tunnel.

MTA Lower Manhattan-Jamaica/John F. Kennedy International Airport (JFK) Transportation, New York

Mr. Dure served as Simulation Team Leader, responsible for documenting run times and operational feasibility of the short list build

Education:

M.B.A., Rutgers, the State University of New Jersey, Newark, NJ, 1994

B.A., History, Haverford College, Haverford, PA, 1980

C.P.M., Certified Public Manager, Rutgers, the State University of New Jersey, 1986

Graduate Transportation Courses, University of Pennsylvania, School of Engineering and Applied Science, 1984-1986

Undergraduate Courses, University of Pennsylvania, College of General Studies, 1982-1984

Employment History:

SYSTRA Consulting, Inc., 1993 – present

NJ Transit, 1984 – 1992

Joint Connection, 1981 – 1984

options for this study. Both TPC and network simulation tools were used. The planning study includes NYCT and LIRR options, both with a new tunnel under the East River and connecting to Lower Manhattan.

LIRR Main Line Corridor Improvements Draft Environmental Impact Statement, Queens Village to Hicksville, NY

As Simulation Manager, Rail Operations, Mr. Dure was responsible for the potential addition of a third main track to the LIRR Main Line between Queens and Divide Interlockings. The third main track will support enhanced reverse peak service, opening markets not served today on the Oyster Bay Branch, Port Jefferson Branch and Main Line. Mr. Dure was responsible for employing SYSTRA's RAILSIM® Simulation Software Suite to evaluate trade-offs in capacity, reliability, travel time, and grade crossing down time of the alternatives evaluated as part of the DEIS.

NJ Transit Trans-Hudson Express (THE) Tunnel Preliminary Engineering, Newark, NJ

Mr. Dure was Operations Analysis responsible for supporting the project team in areas including terminal capacity. The fundamental goal of the THE is to double the train operating capacity from New Jersey into midtown Manhattan. A secondary goal is to provide one-seat ride capability from all branches of the NJ Transit commuter rail system into midtown Manhattan. The THE Tunnel and the NY Penn Station Expansion are scheduled to open for revenue service in 2016.

Nathaniel Ham

Support Expert – Signals and Communications

Mr. Ham has 20 years of experience in all aspects of transportation operations management at the Long Island Rail Road and at the AirTrain John F. Kennedy International Airport (JFK). He brings a solid background in revenue collection, building maintenance, and conductor training. Together with broad-based LIRR experience in logistics, operations, public affairs, and Capital Improvement. Mr. Ham also has managerial skills in recruiting, training and mentoring service and supervisory staff.He was the winner of the MTA "Chairman Award for Outstanding Services Rendered."

MTA Capital Construction East Side Access

Mr. Ham was responsible for reviewing all training documents and setting up and the testing and commissioning processes.

Long Island Rail Road

As Former General Superintendent, Transportation, Mr. Ham directed five senior managers and 76 managers, supervising personnel in providing service for 350,000 daily customers. He developed and implemented staff training programs and performance standards and established and maintained annual operating budget and monitored expenses to meet goals. He also conducted investigations of incident and accident reports and developed corrective measures. Mr. Ham networked in public and private sectors to enhance railroad's mission, purpose, and policies. He managed movement bureau tracking all trains during a two-year period of on-time performance. He designed and delivered a successful first-response program for delays and emergencies. Achieved success in chairing incident investigations led to LIRR adoption of a "lessons learned" approach to planning for such events as the US Golf Open and Belmont Stakes. Mr. Ham commissioned focus groups resulting in improved station signage and customer service. He reduced employee accidents by designing improved yard safety strategies.

Long Island Rail Road

As Former Superintendent, South Shore, Mr. Ham directed field operations for service on Babylon, Montauk, Far Rockaway, Long Beach, and W. Hempstead Branches. He participated in long-term business planning on capital projects and maintenance and directed a staff of 300+ union and supervisory employees in compliance to LIRR, FRA and OSHA codes. He implemented "Customer Connection" training program emphasizing customer service and managed service

Education:

B.A., Communications, Adelphi University, 1979

Public Speaking Course, Dale Carnegie Institute

Closed Circuit Television for Business and Industry, Pace University, 1984

Methodology and Communication for Adult Training, St. Joseph's College, 1987

Block Operator Training

First Aid/CPR Certification Course

OSHA Certified

FRA Certified

Employment History:

SYSTRA Consulting, Inc., 2009 – present

Bombardier, 2003 – 2007

LIRR, 1984 – 2003

disruptions with minimal downtime. Mr. Ham chaired the Rail Investigation Committee and acted as general superintendent on regular basis.

Long Island Rail Road

As Former Transportation Manager and Assistant Trainmaster, Mr. Ham managed field operations to ensure the safe, efficient and economic operation of passenger, freight and equipment trains on field rotations. Scheduled, staffed and managed train and engine crews.

Bombardier Transportation, N.A.,

AS Former O&M Director, AirTrain JFK, Mr. Ham created a positive organizational atmosphere to revitalize the AirTrain JFK project after 2000 accidents through executive leadership, staff recruitment, and operational trouble-shooting. Mr. Ham's gained expertise in the highest technology in electronic surveillance, safety, and transportation. He managed annual operating budget of $23 million and 139 plant, electronic and operations staff and authorized all purchasing and select/ supervise 5 major subcontractors and numerous vendors. Mr. Ham achieved 803 consecutive days with no lost time, no injuries, and no accidents. He oversaw an increased passenger base from 32 million to 42 million within two years and brought AirTrain JFK to full operation within the first year, meeting deadline and safety standards. Mr. Ham coordinated opening day operations on 12/03 after starting date in September 2003.

Stephen B. Noonan, PE

Railcar Specialist - Principal Consultant

Mr. Noonan is an expert in rail transit engineering, providing services in engineering and planning as a consultant, project management in agencies' rail vehicle procurements and supervision of rail vehicle fleet maintenance. His professional experience includes 13 years with the Port Authority of New York & New Jersey, where he led rail systems design and fleet management for PATH and for the John F. Kennedy International Airport Passenger Distribution System. Steve brings a range of rail based engineering, maintenance management and operating system oversight experience to our team. His work spans rail fleet management and procurement project management for heavy rail, automated people movers, commuter rail and high speed Acela trains and high speed maglev. Management of unionized work forces, coordination of DBOM contracts and services, cost estimating and risk management services with agencies and consultants provide a broad base of experience that can prove as an asset to projects and operational needs among our clients. His work leading and authoring technical documents for the original MWRRI trainsets, facilities and maintenance agreements provides a strong foundation to support our WisDOT team in advancing through the procurement's design, delivery and service initiation in this important corridor.

MARTA 3rd Rail Current Collector Evaluation

Lead the team evaluating elevated failure rates of current collector shoes in service. We evaluated historical data with regard to equipment and infrastructure, performed physical examinations, guided inputs from current and prospective vendors, and managed instrumented testing in revenue service. Evaluations included the assessment of maintenance and training practices, metallurgical features, failure modes, prototype replacement applications and running and third rail systems interfacing with the rolling stock.

Port Authority of NY & NJ AirTrain Mid-Life Overhaul

Lea+Elliott's Program Manager for the Mid-Life Overhaul of the AirTrain Monorail System at Newark Liberty International Airport. Vehicles and wayside systems were reviewed to select critical components for replacement so that system reliability and availability goals could be met. Oversight of vehicle overhaul work and commissioning activities by the PA's DBOM contractor proceeded in parallel with the detailed scoping of wayside mid-life overhaul tasks. Concurrent with these tasks was the provision of engineering services to assist the PA and

Education:

M.S., Management, Executive Program, New Jersey Institute of Technology - 2007

B.E. Marine Engineering, SUNY Maritime College - 1997

Continuing Ed., Railway Train Control/ Signaling/PTC - 2009

Registrations:

Professional Engineer, Delaware

Professional Engineer, New Jersey

Professional Engineer, New York

2nd Assistant Engineer, U.S. Coast Guard/ Merchant Marine

Employment History:

Interfleet Technology Inc., 2008 – present

Michael Baker, Jr., Inc., 2005 – 2008

Lea & Elliott, 1997 – 2005

Port Authority Trans Hudson, 1994 – 1997, 1984 - 1987

Port Authority of NY & NJ, 1987 – 1994

American Bureau of Shipping, 1982 – 1984

Gulf Oil corp, 1979 - 1982

its contractor in the evaluation of vehicle guidewheel failure modes and corrective actions and revamping of winter operating procedures, including development and estimating of vehicle and system modifications, and seeking to improve system performance in winter storm conditions.

PATH Upgrade of Electrical System

As Program Manager in the Rail Department, managed a team of project managers and electrical engineers responsible for upgrading the electrical system of the Port Authority Trans Hudson, including new substations, existing substations, power distribution network, control center and new fiber optic network. Multiple contracts totaling over $80 million required detailed schedule requirements due to interface with PATH's systems in continuous operation.

JFK Airport Passenger Distribution System

As PM for the Port Authority engineering department, managed a team effort of agency staff and consultants resulting in contract documents for vendor proposals, review of proposals and negotiation of contracts exceeding $100 million to complete an automated guideway transit system including elevated guideway, vehicles, central and wayside control, power distribution, and a maintenance facility.

PATH Rail Car Purchase & Rehabilitation

As PM for PATH and the Port Authority engineering department, managed all project efforts following award of two contracts totaling $500 million to build 95 new rapid transit cars and rehabilitate 247, including design review, quality assurance, pre-shipment and receiving inspections, contract administration, negotiation of extra work, implementation of retrofit programs on PATH property, and negotiation of $20 million in claims settlements. Contract schedules were critical as late deliveries impacted penalties up to $80 million associated with Safe Harbor Leasing payments.

Jim Wiesinger, MBA, BSEE

Railcar Specialist - Principal Consultant

An electrical engineer and diverse rail transit manager with a BSc in Electrical Engineering and MBA from Drexel University in Philadelphia, Pennsylvania. Mr. Wiesinger brings over 43 years of professional experience, 32 of which have been focused on the transportation industry. Of his 32 years in transportation, 26 years have been devoted to the design, manufacture, overhaul and maintenance of intercity, rapid transit vehicles and locomotives including automated people movers. He is a seasoned electrical engineer, senior manager, maintenance/ facility/production engineer, workshop and facility manager and project manager.

Mr. Wiesinger possesses significant hands on experience gained from working for three transit agencies, Amtrak, SEPTA PATH, three vehicle engineering consultancies and private industry. His formal training and experience managing industrial facilities and large transit vehicle engineering and maintenance systems provide him with a unique well rounded perspective from which to lead and manage projects or to contribute individually. He brings the ability to lead and motivate a project team or staff to ensure an efficient use of resources and production of quality deliverables within the budget and schedule. A sample of Mr. Wiesinger's professional experience includes the following representative projects:

New Jersey Transit, ALP-44 Locomotive Overhaul, Newark, NJ

Provision of vehicle oversight services related to the originally planned overhaul of the ALP 44 electric locomotive fleet. Scope of work was limited to condition inspections and development of prescriptive overhaul specification.

MTA, Programmatic Review of the New York MTA Commuter Rail Fleet Maintenance Program, New York, NY

Mr. Wiesinger was responsible for overseeing this project which involved performing the reviews, interviews, studies and analyses to review each railroad's strategy for achieving their original goals for implementing scheduled maintenance; assess the likelihood that a strategy will be successful; identify obstacles to the successful outcome of each strategy and recommend ways to overcome the identified obstacles.

Education:

MBA, Drexel University, Philadelphia, PA, USA 1973

BS, Electrical Engineering, Drexel University, Philadelphia, PA 1965

Registrations:

EIT, Pennsylvania

Employment History:

Interfleet Technology Inc., 2005 – present

Booz Allen Hamilton, 2004 – 2005

Lea & Elliott, 2001 – 2004

Amtrak, 1989 – 2001

PATH / SEPTA – 1965 - 1991

New Jersey TRANSIT, Maintenance Audit of the RiverLINE Fleet and Signal System

Led a team of engineers in an audit of maintenance actually performed vs. planned, its relevance to the equipment and regulations and generated a series of improvement recommendations for New Jersey TRANSIT management.

PATH Port Authority OF NY&NJ Management

Mr. Wiesinger was Assistant Superintendent of the Car Equipment Division for five years responsible for the shop operation, equipment engineering, CED involvement in new and rehab car programs and the Harrison Shop project.

Frederick Woolsey

Railcar Specialist - Principal Consultant

Mr. Woolsey has over 30 years experience in the rail industry, having worked for a major commuter railroad, a rail car manufacturer, and two consulting firms. His responsibilities have included program/project management bid pricing, technical proposal development, technical management and engineering over four years with ABB Traction/ Adtranz as Electrical Engineering/Systems Integration Manager; Principal Electrical Systems Engineer for the Septa Market-Frankford M4 subway cars, a 222 car, $285 million (US) project; specification development, bid/proposal evaluation, and engineering oversight over five years with LTK as Lead Electrical Systems Engineer for NYCT R142/R142A subway cars, a (combined) 1000+ car, $1.2 billion (US) project, with vehicles supplied by Kawasaki and Bombardier. Fred also has experience with APM and signaling technology through his work at Adtranz (now Bombardier) as Marketing Manager for Signaling and through project work with Interfleet. With the Long Island Rail Road (LIRR), Fred worked in various positions, including Assistant Supervisor of Equipment and Electronics Engineer. During his 16 years with the LIRR, Fred was responsible for maintenance, testing and engineering for LIRR rolling stock, including MU cars, locomotives, and locomotive-hauled coaches. He assisted with specification development for the FL9-AC locomotives remanufactured by ABB Traction and the C1 bi-level coaches built by Tokyu Car.

Fred has an undergraduate degree in Electrical Engineering from Polytechnic University (Brooklyn) and a Masters of Systems Engineering from Penn State University, and is also fluent in German. Perhaps his most impressive accomplishment, working closely with the IEEE committee, was his work as the key member in establishing a data communications document for NJ TRANSIT to develop the first complete North American implementation of IEEE 1473 train data networks for communications onboard cars and locomotives as well as with the wayside. Fred was responsible for developing the documentation and scope of work defining the architecture for incorporation into NJ TRANSIT's specifications for new and overhauled equipment. Relevant projects on which Mr. Woolsey has worked include:

New York City Transit (NYCT)

Lead engineer for the Kawasaki R142A vehicle program, providing maintenance support for new technology vehicles, including the R143, R142 and R142A

Education:

M.Eng Systems Engineering, Penn State University, 2003

B.S. Electrical Engineering, Polytechnic University, 1989, Summa cum laude

Registrations:

Professional Engineer, Delaware

Professional Engineer, New Jersey

Professional Engineer, New York

2nd Assistant Engineer, U.S. Coast Guard/ Merchant Marine

Employment History:

Interfleet Technology Inc., 2006 – present

LTK Engineering Services, 1996 – 2006

Lea & Elliott, 1997 – 2005

ABB Traction Inc./ Adtranz, 1990 – 1996

Long Island Rail road, 1974 - 1990

Electrical Systems Engineer

Project responsibilities included SEPTA M4 car electrical engineering; MNR FL9AC locomotive commissioning and acceptance; Baltimore LRV electrical engineering; and proposal development support

SEPTA Market - Frankford M4 Car

Project electrical systems engineer responsible for the proper integration and function of all electrical systems and components for the Septa M4 car featuring ac propulsion, HVAC, auxiliaries, passenger information, door controls, computer controls, data communications between systems and centralized diagnostics; supervised the development of system interfaces, vehicle schematics, vehicle control software, vehicle computer input/output requirements and vehicle wiring documentation. Project involved introduction of HVAC equipment in a subway environment. Managed third rail system characterization testing on Septa property. Also responsible for the cab signal/ATC system design.

Baltimore LRV Project

Lead engineer responsible for electrical engineering and design. Duties included all systems within ABB and US scope, including door control, HVAC, communications, friction brakes, destination sighs and lighting. Assisted with vehicle commissioning and testing.

Madan L. Gambhir

Systems Engineering, Construction Inspections - Senior Signal Engineer

Mr. Gambhir will serve as Senior Signal Engineer for the Port Authority contract. He has over 39 years of national and international experience, including 9 years with consulting firms involved in railroad signaling, communications, catenary, and coordination of multi-disciplinary railroad projects. Responsibilities included planning, design, project engineering and installation supervision of major projects for heavy and light rail systems, mass transit, and high-speed rail systems. His experience includes design, construction support, construction inspection, quality control and preparation of plans/CADD drawings, specifications, and rail systems cost estimates. He has extensive transit "systems" design experience including SCADA, Bus & Rail Fleet Management Plans and technical report writing.

Amtrak 138 kV System Study-Protective Relay Scheme

Review & evaluation of available Frequency Converter Technologies, study status and condition of existing Rotary Converters for Amtrak's existing 138 kV transmission system, protective schemes, and evaluation of Amtrak's future requirements for 60 Hz-25Hz Frequency Converters. Evaluated locations, technology for New Conversion Equipment, layout, cost, implementation schedule of SFC and drafted study report.

The Advanced Systems Group Technology (ATSG) for Design and Construction Support for BTC/AWS Signal Systems, Senior Engineer (VII), Electronic/Computer

Developed design/drawings for Railcar Interface Equipment, specifications and provided all construction management support necessary for the installation, test and commissioning of a Communication Based Train Control (CBTC)/AWS for NYCT's Flushing Line.

FTA - Project Management Oversight (PMO)

- **Stage II Reconstruction &North Shore Connector (NSC) LRT Projects of PAAC – Principal Engineer:** Overseeing modernization and reconstruction of approximately 12 miles of light rail system involving new traction power and catenary, signals, communications and operation control systems. Worked on LRT systems start-up operations, QA/QC reports, and integrated schedule of the LRT project for testing and revenue operations. Review and

Education:

B.S., Electrical Engineering, 1964, Chandigarh, India

Professional Affiliations:

Fellow Institute of Railway Signal Engineers, UK

Fellow Institute of Railway Signal and Telecommunication Engineer, India

Fellow Chartered Institute of Transport, UK

Life Member Institute of Rail Transport, India

Training & Certificates:

Management Program, 1991

Technical Training/ Seminars for Development of Signal Engineering Skills

Employment History:

Garg Consulting Services, 2002 To Present

Indian Railways, India, 1966-2002

coordination of acquisition of 28 new LRVs and rehabilitation of 55 existing LRVs. Review of Rail and Bus Fleet Management Plans. Design and construction estimate reviews of a new NRC LRT project to include risk assessment and management plan.

- **Dallas Area Rapid Transit System Extension:** Oversight of design and construction estimate functions involving new track, traction power & catenary, signals, communications and Operation Control Systems. Risk Assessment & Risk Mitigation of the project for systems and track. Review & coordination of Bus and Rail Fleet Management plans. Providing fleet acquisition support for 18 new and retro fitting 37 existing Light Rail Vehicles.
- **Dulles Corridor Metrorail Project-Extension to Wiehle Avenue:** Oversight and review of scope, design, and construction estimate involving track, electric traction, communications and signals, operation control and risk assessment and mitigation.

Meadows Maintenance Complex (MMC) Facility Expansion Project, NJ Transit, Principal Engineer

Provided preliminary and final designs and engineering for the additions and modifications of over 15000 ft of AC overhead catenary system for expansion of MMC Facility to satisfy growth requirements of the fleet involving interagency coordination & extension of the catenary from the locomotive shop to the layover yard. Continuing design work and construction support services for the MMC complex.

Engineering Program Management Services for PATH's New Railcar and Automatic Train Control, Senior Signal Engineer

Developing design-build specifications and construction support for an automatic train control system, including installation of car-borne equipment of the signal system to replace the entire wayside signal system of PATH. Reviewed signal circuit drawings.

MTA Long Island Rail Road PN-PE Power Load Study, Principal Engineer

Study of 3rd rail sectionalizing drawings of LIRR system, substations, continuity bonds, and development of single line diagrams of LIRR 3rd rail traction power system. Study of the specifications & data of substations, running rail, 3rd rail configuration and positive and negative feeders for computing system components values for the development of RAILSIM Model.

Energy Management Study, AMTRAK, Principal Engineer

Building a RAILSIM model with study, interpretation and incorporating tracks, speed and signaling data in design/drawings for study and evolving energy management model for the traction system.

Wayne Junction to Glenside Systems Improvement, SEPTA, PA, Project Senior Engineer

Design and engineering for power supply for the signaling system.

David L. Ordas

Systems Engineering, Construction Inspections - Senior Track Engineer

Mr. Ordas has over 20 years experience in Project Management. He has worked on High Speed Initiatives for improvements on Metro North's New Haven Line to enhance the operation of Amtrak Service. He has experience in Track, Structures, Power, Communication and Signal Engineering. He also has Maintenance of Way (Track) Management experience.

During his time with Garg, Mr. Ordas has been directly involved in the following Metro North projects:

- Evaluation of Port Jervis Main Line: Set priorities on track renewal programs (66 track miles, including rail, ties and turnouts)
- Design and construction of Upper Loop Track (GCT), New Haven Interlocking, Stamford Yard, and Shell Interlocking
- Managed High Speed Interlockings improvements on Metro North's Harlem, Hudson, and New Haven Main Lines
- Initiated Metro North Concrete Tie Programs.

Prior Experience

MTA METRO NORTH COMMUTER RAILROAD, Director High Speed Rail Operation

As a liaison to Amtrak, represented Metro North in the development of programs to improve Amtrak operations. Over 160 million dollars was programmed for projects in the State of Connecticut. Over 70 million dollars was committed for improvements at New Rochelle (Shell Interlocking) in New York. Major projects included reconfiguration and renewal of New Haven Interlocking, renewal of Stamford Interlocking, installation of twenty-track miles on concrete ties, including rail renewal.

- **Condition Evaluation of Port Jervis Main Line, NY:** Metro North Commuter Railroad assumed the maintenance responsibilities of the Port Jervis Main Line between Suffern, NY and Port Jervis, NY. This included 66 miles of main track, including all siding and interlockings. Evaluated the condition of the track and interlockings (turnouts) to set up improvement programs. Inspection of the 66 miles of track and all turnouts was completed. A program was developed for

Education:

MBA, Iona College, 1997

BS, Management, Dominican College, 1993

Professional Affiliations:

AREMA Member 1984

Committee 11 Commuter and Intercity Rail System, 1997-2004

Committee 11 Chairman, 1999-2003

Committee 11 Vice Chairman, 1997-1999

Committee 17 Member, 1994-2004

Transportation Research Board Committee TRN 229

Employment History:

Garg Consulting Services, Inc., 2004-Present

MTA Metro North Commuter Railroad, 1984-2004

MW Metro North Commuter Railroad,1977-1984

Consolidated Rail Corp, 1974-1977

Penn Central Transportation Co., 1968-1974

rail renewal, tie and surfacing and turnout replacements programs. Responsible for the contract negotiations for installations of rail, ties and surfacing with New Jersey Transit.

- **Shell Interlocking Improvements, NY:** This project involved the reconfiguration of the Shell Interlocking, which included the installation of a new interlocking at CP 215 and reconfiguration and replacement of CP 216 and CP 217. Final alignment allowed a 45 MPH connection with Amtrak's Hell Gate Line to Penn Station. Project was funded with Amtrak's high-speed improvement project on the New Haven Line in New York. Liaison with the MN Capital Department and Amtrak. Member of the design team which represented the operating department at all planning and design meetings. Other responsibilities included project construction schedule and material procurement for track department.
- **High Speed Interlockings Improvements on Metro North's Harlem, Hudson, and New Haven Main Lines, NY and CT:** The installation of High Speed interlocking improved operational flexibility of the railroad. Metro North, Amtrak and Connecticut Rail developed programs to improve the operating speeds on the New Haven Main Line. Southport, Connecticut was the location, which was selected for the installation of a new High Speed Interlocking (CP 248). Managed High Speed Interlockings improvements on Metro North's Harlem, Hudson, and New Haven Main Lines. Responsible for planning, oversight of design, track material procurement, budget estimates, and installation schedules.
- **Grand Central Terminal Loop Track, NY:** This program involved the complete replacement of the upper loop in Grand Central Terminal. Designed and managed the development of track material specifications and procurement. Cooperated with the design consultant to program construction schedule to meet the railroads requirement.
- **New Haven Interlocking Reconfiguration, CT:** This project involved the complete renewal of all turnouts and track between CP 272 and CP 275. Signal and power facilities were replaced with new modern equipment and complete replace of the catenary system. This terminal is largest on the New Haven Line and the end of Metro North operations. Coordinated requirements with Metro North, Amtrak, and Connecticut Rails Division from all departments for Metro North. Provided all design requirements for Metro North.

MTA METRO NORTH COMMUTER RAILROAD, Director Force Account Management

Developed and managed project controls with met requirements of funding agencies, MTA, FTA, and Metro North. Developed criteria for project planning, scope development, estimating, and budgeting. A procedure to control projects was implemented to track project spending by task, measured percentage of work completed versus monies expended. Budget to actual reports were provided to control the monies allocated to the Capital Plan. The budgets for Operating Department Projects exceeded 200 million dollars for MTA Capital 5 year plan. Connecticut committed over 100 million in funding for Capital Improvements.

Sudarshan K. Mahajan

Systems Engineering, Construction Inspections - Senior Inspector – Electrical Traction Power

Education:

M (Tech), Electrical Engineering, 1962, I. I. T Bombay, India

B.S., Electrical Engineering, 1961 Punjab Engineering College, India

Employment History:

Garg Consulting Services, Inc., 1999-Present)

Indian Railway, India, 1989-1998)

Rites, India,1984-1988

Indian Railway, India, 1963-1983

Mr. Mahajan has over 41 years of experience in electrical traction power of planning, design, inspection, installations, operations, and management of railroad projects. His electrical traction power experience includes high-tension towers, substations, catenary, rail electrification, electrical installations construction inspection, power transmission and distribution, and operation and maintenance of electrical locomotives and EMU stock. He has designed and supervised installations of electric power distribution systems, substations and electrified railway lines.

GARG CONSULTING SERVICES, INC. (1999 to Present) - Senior Electrical Engineer

Design, engineering and construction inspection of railroad and rail transit projects in the area of electrical traction power including substations, catenary, third rail, cathodic protection, cabling, feeders, power transmission and distribution and signal system.

- **East Side Access Project, MTA LIRR:** System design and engineering for the rail connection between Jamaica and Grand Central Station, NY. Study of 3rd rail sectionalizing drawings of LIRR system, substations, continuity bonds and development of single line diagrams of LIRR 3rd Rail Traction Power System. Study of the data of positive and negative cables and computation of the system component values for the development of the electrical infrastructure component of the RAILSIM Load Flow Analyzer Model.
- **New Haven Boston Electrification, AMTRAK:** Testing and commissioning of substations and catenary system of approximately 360 track miles.
- **Wayne Junction to Glenside System Improvement Project, SEPTA:** Inspection and design of substations, catenary system, SCADA, signal power supply, switch heaters, grade crossings, and signal cables.
- **Traction Power System Load Study (Operational Studies and Simulation Models), MTA LIRR:** Provided technical services. Reviewed LIRR traction power and signal system design documents and drawings. Extracted design data for substations, ratings and characteristics of equipment, third rail

characteristics and location of different types of third rails used, negative and positive cable characteristics, ratings and lengths, characteristics and location of impedance bonds, ratings and locations of switch heaters and third rail heaters. Calculated resistance of feeder cables, third rail and running rails between substations, substation and tie stations on a per unit basis as input data for computer simulation model. Developed field test plan and performed field tests to determine accuracy of data.

- **PN-PE Power Load Study, MTA LIRR:** Studied 3rd rail sectionalizing drawings of LIRR system, substations, continuity bonds and development of single line diagrams of traction power system. Studied specifications and data of substations, running rail, 3rd rail configuration, and positive and negative feeders for computing system components values for the development of RAILSIM Model.

INDIAN RAILWAY, INDIA (1989 to 1998) - Manager

Responsible for planning, design and construction engineering and inspection of electrical equipment including substations, AC and DC catenary systems, traction power feeders and distribution system. Planned, designed and installed 25 KV electrification system. Performed final testing and commissioning of AC and DC substations, catenary system, third rail and other electrical installations.

RITES, INDIA (1984 to 1988) - Senior Consultant

Responsible for consultancy services or preparation of designs including specifications and cost estimates for AC electrification projects in Iraq, Algeria, Mauritius and Ethiopia. Inspection and tested railway traction power system and equipment including substations and catenary.

INDIAN RAILWAY, INDIA (1963 to 1983)

Principal Electrical Engineer

Responsible for planning, organizing, execution and project management for substation, catenary, and other electrical distribution projects. Developed maintenance facilities for locomotives, EMUs and other 25 KV electrification system components, and testing.

Senior Electrical Engineer

Responsible for design, construction, maintenance, inspection and testing of 25 KV substations, overhead catenary and other electrical equipment in various divisions of Indian Railways. Responsible for all coordination, project control, monitoring of progress, etc. Also responsible for operation and maintenance of AC electric locomotives, loco maintenance sheds, planning and development of new facilities. Did cost-cum-feasibility and techno-economic survey for new 25 KV electrification projects.

Assistant Electrical Engineer

Responsible for train lighting, traction distribution, maintenance and operation of substations, catenary system, electrical locomotive, EMU's, etc. Supervised the work of inspectors and foremen.

Karur R. Murthy

Systems Engineering, Construction Inspections - Electrical / Traction Power Engineer

Mr. Murthy will serve as Electrical/Traction Engineer for the Port Authority contract. He has 25 years of experience in the transit industry (USA and abroad) under varying environments including subway tunnels. As a consultant, he has designed and managed several projects for transit agencies such as SEPTA, AMTRAK, DRPA, NYCTA, MTA-Baltimore, NJ Transit, WMATA, PATH, DART and Taipei Rapid Transit Systems of Taiwan. In addition he has 15 years of experience in electrical equipment manufacturing industry. He also has vast experience in AC and DC power distribution systems including substations from design concept through construction. He has developed AC and DC single line, metering and relay diagrams, layout of substations equipment, power and lighting, cables, and duct banks. He has performed load studies and short circuit analysis to establish equipment ratings, voltage drop calculations for cable sizing, and grounding calculations. He has designed contact rail and switch heater system with remote control of power, and he has witnessed testing and approved electrical equipments. He is well versed in specification writing, complying with the national electrical code and the local codes.

Condition Inspection of Stamford Railroad Station, Connecticut

Inspected and prepared punch list for the station's HVAC systems for code compliance.

East Side Access Project, NY, MTA LIRR

Responsible for the preparation of preliminary and final design of traction power drawings. Design of a special grounding system for two underground substations, which sit on rock terrains of Manhattan and Queens area of New York. Careful application and interpretation of IEEE 80 standards to open electrical substations on a good soil. Preparation and review of drawings. Specifications modification for the project after comments from the client for 30% submission.

Prior Experience

New Carrollton Shops and Yard (WMATA)

Project Engineer for the design and layout of contact rail heater system routing of control, power cables, and duct banks. Reviewed shop drawings, wrote specifications and supported during construction.

Education:

B.S., Electrical Engineer, Bangalore University, India

B.S., Mathematics, Mysore University, India

Training & Certificates:

PERT/CPM in Project Planning, Datamatics Corporation, India

Employment History:

Garg Consulting Services, Inc., 2005-Present

Systra Consulting, 1992-2005

American Transit Consultants, Taipei, Taiwan, 1988-1992

Railway Systems Design, 1982-1988

Ngef Ltd.,(Manufacturers of Electrical Equipment) Bangalore, India, 1967-1982

Automatic Train Control Project, SEPTA, PA

Project Engineer for design and construction related services for signal power and the traction return system. The design involved the calculations for sizing of traction return DC cables. Signal power design included the calculations for sizing of equipments, layout of equipments, conduits, and cables. Reviewed shop drawings and responded to the request for information from the contractor.

Downtown PATH Restoration Program, Port Authority of New York and New Jersey

This program comprised of three packages by its geographical limits, namely World Trade Center, Tunnels E & F and Exchange place. Designed and managed the modifications to the power distribution at Exchange place. The design involved relocation of equipment such as panel boards, transformers, switches and conduits. Heavy interfacing with other consultants was a key factor in this project.

Grounding and Bonding of Station Platforms and Bridges – Amtrak Northeast Corridor

Designed platform grounding and bonding for Amtrak's Westerly and Old Saybrook stations. Designed grounding and bonding for various bridges such as Horse Pond, Pine River, Oyster River and Elm Street along the Northeast Corridor.

Passenger Stations Rehabilitation Projects, SEPTA, PA

Designed and managed an efficient grounding system for three passenger stations, namely, Radnor Station, Chester Station and Stafford Station in Pennsylvania. The project involved specification writing and the engineer's estimate.

Signal Power System Delaware River Port Authority

Designed and managed signal power system with 100HZ power involving motor-generator sets by converting 60HZ,3 Phase, 480V to 100HZ, 1 Phase, 480V system and stepping up to 2.4 kv to feed to feed signal power lines along the right-of-way. Specification writing was a part of the project.

Grounding and Bonding Project, Dallas Area Rapid Transit

Designed and managed the efficient grounding system for several substations. Design involved the systematic calculations of step and touch potentials per IEEE-80 and layout of the ground grid around the substations.

Market Frankford Subway Elevated Shops and Yard Modernization Project, SEPTA, PA

Project Engineer responsible for the construction related services such as review of shop drawings and responding to the request for information from the contractor.

Broad Street Subway Pine Substation Extension Project, SEPTA, PA

Designed and managed DC distribution system, including modifications to remote Dc breaker rooms. Project included specification writing. Engineer's estimate, managing budgets and schedules, review CADD work. Construction services - review and approval of shop drawings.

Paul D. Goodwin, PE

Systems Engineering, Construction Inspections - Field Engineer/Structure

Mr. Goodwin will serve as Field Engineer/Structure for the Port Authority contract. He has over 9 years of broad experience in construction inspection, bridge design, bridge safety inspection, bridge evaluations, and load ratings. Mr. Goodwin is experienced in the design of highway structures and is familiar with all governing codes and specifications. He has experience in all aspects of inspection of highway, rail, and overhead sign structures. His expertise includes planning, field inspection, evaluation of structures, maintenance and rehabilitation recommendations, and load rating and strengthening of structures as required. He also has construction inspection experience including nuclear density testing.

Raintree Condominiums, Construction Management and Inspection

Providing Resident engineering, construction management and inspection for the reconstruction of a 1000-foot long road (2005).

On-Call Railroad Engineering and Construction Service

Providing construction inspection oversight and management services as needed, working directly with Metro North personnel (2005-2006).

Construction Supervision of I-84 Reconstruction, Cheshire & Southington, CT, ConnDOT

Responsibilities included, but were not limited to, construction inspection supervision of the reconstruction of I-84, including 2 bridges. Also provided nuclear density testing and reporting (2004).

Radio Tower System Upgrade, NYCT-MTA

Duties included, but were not limited to field inspection/investigation of existing radio tower structures and future site locations, preparation of site plans, structural analysis of existing structures, design of new structures, and preparation of design plans (2007- 2008).

Lakewoods Subdivision, Construction Management and Inspection.

Providing Resident engineering, construction management and inspection for the construction of a 2,600-foot long road including extensive underground utility installations, permit monitoring and quality control (2006).

Education

M.S., Civil Engineering, University of Connecticut, 2000

B.S., Civil Engineering, University of Connecticut, 1998

Professional Registration

Connecticut PE
Cert # [redacted]

Training & Certificates

NETTCP HMAPI
Cert# [redacted]

NETTCP Nuclear Gauge Certified
Cert. [redacted]

NHI [redacted] Safety Inspection of In-Service Bridges

NHI [redacted] Safety Bridge Inspection Refresher

Fall Protection Awareness Training 29 CFR 1926.503, January 2008

Computer Skills

MARC, Fortran 77, ROBOT V6, EG&G M270 v4.23, CorrWare version 2.0, BAR 7, BOX 5, PS3, STAADPro 2002, VIRTIS 5.0, SABRE, Bentley MicroStation v8

Employment History:

Garg Consulting Services, Inc., 2003-Present

L-C Associates, 1999-2003

Metro North Railroad New Haven Line Bridge Inspection Program, ConnDOT – Team Leader

Bridge safety inspection and evaluation of railroad bridges associated with Metro North's Mainline and several Spur Lines in southwestern Connecticut from the New York State line to New Haven and north to Waterbury (2002-2005).

Complex Bridge, Overhead Sign Supports, and Mast Arm Traffic Signal Supports Inspection, ConnDOT – Team Leader

Safety inspection and evaluation and Load Rating analysis of various highway structures located throughout Connecticut. Duties include, but not limited to structural inspections, procurement and coordination of inspection and safety equipment, and bridge load rating analyses (2003 to Present).

Rehabilitation of the Metro-North Railroad Walk Swing Bridge, Norwalk, CT, ConnDOT - Project Engineer

In charge of bridge inspection. Duties included, but not limited to the bridge structural inspection, procurement of rigger services, safety boats, operator, safety persons and the development of the bridge rehabilitation program (2005–2008).

Rehabilitation of the Metro-North Railroad Bridge over the Saugatuck River, Westport, CT, ConnDOT – Project Engineer

Field inspection of catenary and high towers condition, load rating, stress analysis and final rehabilitation report (2008).

Rehabilitation Study of Metro North Walk Swing Bridge High Towers, Norwalk, CT, ConnDOT – Team Leader (2007)

Connecticut Biennial Underwater Bridge Inspection Program, ConnDOT – Team Leader (2005 to Present).

Prior Experience:

- Bridge Engineer - I-91 / I-95 / Route 34 Interchange Substructure Design (2003)
- Assistant Team Leader - Mass Highway Statewide Bridge Load Rating Contract (2001 – 2003)
- Bridge Engineer - Rehabilitation study of Textile Avenue Bridge, Lowell, MA (2000)
- Team Leader - CT New Haven Line Railroad Bridge Inspection Program (2002 – 2003)
- Team Leader - CT Statewide Overhead Sign Structure Inspection and Evaluation (1999 – 2002)
- Team Leader - Emergency Mast Arm Traffic Signal Support Structure Inspections, ConnDOT (2002)

Daniel Colavecchio, PE

Systems Engineering, Construction Inspections - Field Engineer / Bridge

Mr. Colavecchio will serve as a Field Engineer/Bridge for the Port Authority contract. He has over 17 years experience in condition inspection of highway bridges, railroad bridges, and overhead sign structures. He has provided load ratings and maintenance recommendations for various types of structures. He has been involved on various projects in Connecticut, Rhode Island, New York, New Jersey and Massachusetts.

NYCT Contract W-32366 - 800 Mhz Bus Radio System, Structural Inspection – Project Manager / Team Leader

Development, design, and inspection of Structural System, survey plan for over 24 communication shelter sites and communication towers. The work includes various types of investigation and analysis for locating equipment shelter, complete the design of towers on the ground and/ or above existing structures and design sites as required (2007 -2008).

Complex Bridge & Overhead Sign Supports Inspection ConnDOT - Project Manager and Team Leader

Responsible for daily operations of the project including coordination of the project and reviewing reports for thoroughness and code compliance (2003-present).

Statewide Biennial Metro-North Railroad Bridge Inspection, ConnDOT - Project Manager and Team Leader

Responsible for day to day operations of the project including coordination of the project, reviewing reports for thoroughness, code compliance and QA/QC (2002 – 2005).

Inspection of Bridges on and over the Garden State Parkway in New Jersey - Team Leader

Duties included inspecting assigned bridges, providing an inspection report, and scheduling and coordinating field activities with local authorities and police.

Rehabilitation of the Metro-North Railroad Walk Swing Bridge, Norwalk, CT - Project Engineer

In charge of bridge inspection. Duties included, but not limited to the bridge structural inspection, procurement of rigger services, safety boats, operator, safety persons and the development of the bridge rehabilitation program.

Education:

BS, Civil Engineering, University of Connecticut, 1990

Professional Registrations:

Connecticut PE, 1994
Cert# [redacted]

Massachusetts PE, 1997
Cert# [redacted]

New York PE, 2000
Cert# [redacted]

Training & Certificates:

NHI [redacted] Safety Inspection of In-Service Bridges

NHI [redacted] Bridge Inspection Refresher

NHI [redacted] Fracture Critical Inspection Techniques for Steel Bridges

NYS Department of Transportation Biennial Bridge Safety Inspection Class

Mass Highway AASHTOware Virtis Training Class (4/98)

FHA/NHI Certificate 2007 – Inspection & Maintenance of Ancillary Highway Structures

Employment History:

Garg Consulting Services, Inc., 2003-Present

L-C Associates, 1989-2003

Rehabilitation of the Metro-North Railroad Bridge over the Sagatuck River, Westport, CT - Project Engineer

Field inspection of bridge and high towers condition, load rating, stress analysis and final rehabilitation report.

Commodore Hull Bridge Rehabilitation, Shelton, CT - Project Manager

CT Biennial Underwater Bridge Inspection Program (2005-Present)

Prior Experience:

Structural Engineer for Rehabilitation Project, 5th Street Bridge, Fitchburg, MA

Performed a field inspection and inventory of a historic concrete through arch.

Structural Engineer for Rehabilitation Project, Textile Avenue Bridge, Lowell, MA

Performed a field inspection and inventory of a historic eyebar deck truss bridge.

Structural Engineer for Metro-North Railroad Bridge Rehabilitation, Various Locations, CT

Team Leader for Mass Highway Statewide Bridge Rating Contract using Virtis, Bar 7, Box 5 and Staad III Programs

Structures rated included thrutrusses, multi-beam bridges and a concrete box culvert (2001-2003)

Team Leader for Massachusetts Highway Department Statewide In-Service Inspection of Complex Bridges (1997 – 2002)

Team Leader for CT Biennial Complex Bridge Inspection Program (1990– 2003)

Team Leader for NY Region 8 Overhead Sign Structures Inspection Program (2000– 2001)

Team Leader for New Haven Line Railroad Bridge Inspection (1995-2003)

Team Leader for CT Statewide Overhead Sign Structures Inspection Program (1999 – 2002)

Team Leader for Bridge Evaluation and Rehabilitation Program – MBTA, MA (2001-2003)

Team Leader for CT Statewide Overhead Sign Structure Inspection – Included rating all span structures and bridge mounted signs. (1995 – 1998)

Various RI Bridge Rehabilitation Projects - Inspection and Load Rating Analysis

Duties included an inventory of bridge decks using ground penetrating radar taking core samples of both superstructure and substructure concrete (1992 – 1993)

M.S.(Moh) Longi, PD,PE

Design Reviews and Track Specialist - Chief Engineer/Project Manager

Mr. Longi has 40+ years of international and domestic experience. Mr. Longi's diversified experience includes working for contractors, consultants, and 25+ years with Long Island Rail Road, New York.

(1995-Present) Major recent project undertakings include the following:

- MNR-$50 Million Substations and CBHs-Upper Harlem Line. As subconsultant for this ongoing project, completed final structural design, foundation design, technical specifications and construction cost estimate. Recently participated in the value engineering effort for this project, to reduce construction costs by nearly $7 Million.
- As a subconsultant, working on the Construction Management of MTACC $7.2 Billion East Side Access Project.
- Track and Structures Study for High Speed Rail Operation, Staten Island Railway, New York.
- $130 Million+ Design Build CBTC Project, Carnarsie Line, NYCT: A) Design of underpass (cut and cover tunnel) connecting Third Ave./14th Street Subway, Manhattan to adjacent building basement (Relay Room); B) Design of 2 story structural steel frame RTO building spanning Main Line track, located on center-island platform at Rockaway Parkway Station, Brooklyn. Worked as a subconsultant.
- Hunts Point Produce Market, NYCEDC. $6 Million Rehabilitation of the Hunts Point Rail Yard, including TOFC study.
- Hoboken Yard "B," NJT. Preliminary track design for the $40 Million Storage Yard, Locomotive Shop, Car Wash, Inspection Pit, Fuel/Sanding Facilities and Rail Bridges, including storage capacity alternatives study. Worked as a subconsultant.
- NYCT Atlantic Terminal Rehabilitation. Performed in-depth inspection and structural condition evaluation of LIRR's Flatbush Terminal's structural elements.
- Goethals Bridge, George Washington Bridge, JFK Terminal Bridges, and Lincoln Tunnel Sign Structures, PA-NY&NJ. Performed biennial Inspection, as subconsultant.
- Comprehensive Assessments of Line Structures, LIRR. Scope

Education:

B.S., Civil Engineering, 1966

M.S., Structural Engineering, Cooper Union, N.Y., 1973

Professional Degree (Civil Engineer), Columbia University, N.Y., 1979

M.S., Transportation Planning/Engineering, Polytechnic University, N.Y., 1980

Registrations:

Licensed Professional Engineer: New York, New Jersey, Connecticut and Pennsylvania states.

Employment History:

Longi Engineering, 1995-Present

LIRR, 1970-1995

included inspection, condition rating, load rating, development of bridge inspection and management software, prioritization and capital funding recommendations. Worked as a subconsultant.

- NJT-GEC for Architectural/Engineering including stations and terminals, as a subconsultant
- MNR-Participated as a subconsultant in developing Signal and Communication Standards for the operating departments.
- FAA-Site survey and preliminary design as a subconsultant for site security improvements, parking lot and guard house, for New York Tracon.

(1970-1995) During Mr. Longi's tenure at LIRR, he managed the following projects:

- Project management of $80 Million Grade Crossing Elimination Projects, Babylon Branch (Amityville, Copiague, Lindenhurst, Merrick, and Bellmore) comprising viaducts, bridges, embankments, stations, platforms, and direct fixation track on the aerial guideways.
- Project management $180 Million West Side Yard, funded by Five Year Capital Program, work included special trackworks, concrete slab tracks, repair shops, substation, transportation and administration buildings.
- Project Manager of Subway/Railroad Tunnels-63rd Street Subway work comprised of cut and cover tunnels, TBM tunnels; and Queens Archer Avenue Subway work entailed cut and cover tunnels, soft ground tunnels, underpinning of bridges and buildings.
- $30 Million Reynolds Channel Trestle comprised of prestressed concrete piles, prestressed concrete box beams, direct fixation track, and a movable (rolling leaf bascule) span. Project funded by Five Year Capital Plan.
- Project Manager of Five Year Capital Program funded $330 Million Mineola Grade Crossing Project. Entailing elimination of five grade crossings, railroad bridge, cut and cover tunnel, station facilities, direct fixation track on the rail bridge, concrete ties on embankments, high speed turnouts, and associated signal, power and communication systems.
- Hillside Electric Shop, Richmond Hill Diesel Shop & Yard, Ronkonkoma Yard & Shop, etc. Total construction cost $400 Million. Worked on design and construction phases, as Engineering Department's Project Manager. Project funded by Five Year Capital Program.
- As Manager Construction Management, was responsible for management of outside contractor's work on Railroad's Bridges, Viaducts, Yards, Buildings, Shops, Tunnels, Towers, including highway bridges traversing over tracks. Staff included Senior Project Engineers, Senior Inspectors, Inspectors and Scheduler /Estimator.
- As Manager Inspection planned and performed in-depth inspection and rating of bridges, viaducts, platforms, stations and tunnels for conformance to AREMA, FRA, and industry codes and standards.

Wayne Caggiano, PE

Design Reviews and Track Specialist - Project Engineer

Mr. Caggiano has more than 38+ years of diversified experience in design and construction of projects related to railroads, highways, bridges and buildings.

December 2008- Present, Longi Engineering, P.C., Director Infrastructure Services

As head of the Construction Management/Inspection Dept., responsible management of projects including rail, bridges, highway and infrastructure.

2008, NYCDDC-Reconstruction of 47th Ave., LIC, and Jamaica Area Streets, Queens, NY

Resident Engineer for the installation of new water main, sanitary and storm sewers, sidewalk and roadways.

TBTA On Call Inspection at Triboro and Throgs Neck Bridges

Resident Engineer for using lane closures with required M&PT provisions, performed roadway repairs, including armored joints, at Triboro Bridge.

November 2007- January 2008, MTA - Metro North Rail Road, Golden's Bridge Station, Lewisboro, NY

As Resident Engineer monitored installation of drilled foundation piles for pedestrian overpass.

January 2006- November 2007, NYC Housing Preservation & Development with NYCDOT and NYSDOT participation- Emergency replacement of building slabs at 25 and 45 Sutton Place So. over FDR Drive, NYC.

Resident Engineer for the demolition and replacement of lower building slabs utilizing a construction shield over FDR Drive. (Contract Bid- $30 Million.)

August 2004 – November 2005, Jamaica Center Enhancement Project, NYCEDC - Greater Jamaica Develop Corp.

Resident Engineer for this $9M project featured an improved pedestrian mall on 159th Street at York College including infrastructure improvements.

August, 2003 – April 2004, NYS Thruway Authority

Resident Engineer for the $10M rehabilitation of the Byram River Bridge carrying the Thruway from NY to Connecticut.

Education:

B.E. Civil Engineering, New York University, 1977

Registrations:

Licensed Professional Engineer, New York

Employment History:

Longi Engineering, 2008-Present

HDR, 2004- 2008

Gibbons, Esposito & Boyce Engineers, P.C., 2003-2004

Longi Engineering, P.C., 2003

Parsons Brinckerhoff, 1999-2003

Long Island Rail Road, 1970-1998

2003, PA-NY & NJ George Washington Bridge

As Assistant Team Leader, performed the biennial inspection.

1999 – 2003, NYSDOT – Long Island Transportation Plan 2000, Phase II-Downstate Rail Clearance Study

Project Engineer for using rail clearance data for study areas, such as MTA Metro-North and LIRR, CSXT and Amtrak, identified locations with insufficient clearance for clearance envelopes up to 22 feet. Prepared design and cost estimates.

MTA LIRR Comprehensive Assessment of Line Structures, NY

Field Inspection Team Leader the LIRR Assessment. The work involved data collection for inspection of undergrade bridges, and tunnel inspection for LIRR Atlantic Branch in East New York, during night time track outages.

NYCDOT - Third Avenue Bridge Reconstruction Manhattan and Bronx, NY

As Chief Inspector, monitored site demolition and inspection of emergency steel repairs to main swing span over Harlem River.

TRANSCOM System for Managing Incident and Traffic Expansion (TRANSMIT), NYC and NJ; NYCDOT, NYSDOT and NJDOT.

As Resident Engineer, monitored the installation of E-Z Pass antennae on major highway overpasses, including power and telephone connections.

NYSDOT – Reconstruction of Brooklyn Queens Expressway (BQE), Queens, NYC

Chief Inspector for the project. Scope involved the construction inspection of the BQE from 25th Avenue to Broadway in Queens, New York. Performed document reviews, office engineering duties and inspection services.

New York City Transit (NYCT) Rockaway Beach Line, Queens, New York: Rehabilitation of steel and concrete viaduct structure over Jamaica Bay

Project Engineer for the pre-construction inspection of viaduct structure to document required repairs, accessed by boat.

1970 – 1998, Long Island Rail Road, Jamaica, New York, Project Engineer

Woodside Station Rehabilitation, Woodside, NY

Project funded by Fiver Year Capital Program. Inspection and coordination of contractor's activities and LIRR force account work with LIRR operations at Woodside Station. Secured track outages for contractor's work and coordinated with LIRR operations on Main Line and Port Washington branches, six (6) tracks with electrified third rail. The project involved interface and coordination with NYCT No. 7 line and construction of LIRR new station platforms, canopies, escalators, lighting, PA system, track, signal, communications, and third rail.

Paul I. Cohen, MS

Design Reviews and Track Specialist - Senior Track Engineer

Mr. Cohen is a Senior Civil/Track Engineer with experience in Class 1 Railroad, Rapid Transit, and Light Rail in the areas of facility design and its relationship to operations; development of alignments, trackwork and turnout layouts and coordination with signal design; development of train performance calculations to obtain train speeds, running times and power consumption; and preparation of construction specifications and drawings. He has expert knowledge of special trackwork designs and practices of AREMA, Railroads, Rail Transit, and European rail systems.

2008- Present, Longi Engineering, P.C., Senior Railroad Engineer

Mr. Cohen has joined as Senior Railroad Engineer to work on Rail projects.

2006-2007, MTACC-East Side Access Project, Track Design Engineer

Worked as Track Design Engineer for a subconsultant to the joint venture design consultants.

2005-2006, Hudson-Bergen Light Rail System, Senior Staff Engineer, Maintenance of Way

Primary technical duties include preparation of preliminary designs and estimates for infrastructure projects; and performing field inspections of trackwork, overhead catenary and right-of-way. Secondary managerial responsibilities include periodic checks of the hourly employees for safety and operational rules compliance; and augmenting transportation management during unusual weather or operational situations. Representative projects include:

- Performed a line capacity analysis using signal control line and train performance calculations for the critical DeKalb-Hoboken terminal district. Coordinated with the Senior Schedule Manager for the preparation of new operating schedules, run-cutting and equipment assignments after the Weehawken Tunnel is placed in service. Prepared preliminary route alignment and profile, and line capacity analysis, for a third mainline track to provide for increased line capacity at DeKalb Junction.

1983-2005, Port Authority of New York and New Jersey, Associate Engineer to Engineer to Staff Services Engineer

Served as the designated trackwork engineering specialist in the

Education:

University of Illinois at Urbana Champaign, M.S. Civil Engineering, 1977

Yale University, M.S. Astrophysics, 1977

City College of New York, B.A. Physics, 1967

Employment History:

Longi Engineering, 2008-Present

Garg Consulting Services, 2006-2007

Twenty First Century Rail Corporation, 1998-2006

Port Authority of NY & NJ, 1983-2005

National Railroad Passenger Corporation (AMTRAK), 1982-1983

Southeastern Pennsylvania Transportation Authority (SEPTA), 1978-1981

Engineering Department. Duties included design and design management, formulation of track standards and of design criteria, and performance of special studies. Inspected factory assembled special trackwork, and inspected plain line and special trackwork installed in the field. Responsibilities included railroad and rail transit track, as well as specialty items such as movable bridges, contact rail, and grade crossings. Representative projects included:

- Prepared alignment and trackwork layout for permanent improvements at PATH Exchange Place Station.
- These activities include the design of a replacement terminal at the WTC site and new track and wayside utilities for PATH's downtown tunnels under the Hudson River;
- Installation of prototype advanced design crossover with fully guarded asymmetric switches; prepared contract documents and reviewed shop drawings for the prototype crossover;
- Performed investigations for specifications and installation of AREMA double tongue pavement switches and concrete module grade crossings for the Port Authority marine terminals trackage;
- Prepared specifications and drawings for PATH open area tie replacement contract program including replacement of rail joints and rail fasteners, regauging of track, and lining and surfacing of track;
- Designed concrete slab track for test installation in PATH Tunnel A; designed and specified turnouts and trackwork materials for PATH carwash facility.

1998-2002, Twenty First Century Rail Corporation, Technical Consultant

On a part-time intermittent basis provided technical advice concerning special trackwork issues at the Hudson-Bergen Light Rail System. These consultations dealt with the effects of the interlocking configurations upon railway operations and with details of fabrication and installation of special trackwork.

1982-1983, National Railroad Passenger Corporation (AMTRAK), Operations Planner

Interfaced with AMTRAK construction and operating departments to determine impact of construction and programmed maintenance upon Northeast Corridor intercity and commuter operations. Assisted in development and publishing of timetable schedules for the Northeast Corridor. This effort involved field observations, computer simulation, and graphical analysis of train operations.

1978-1981, SEPTA, Engineer to Carhouse Supervisor

As engineer, developed and test operated a prototype for a maintenance rail car that washes subway tunnel walls. As carhouse supervisor, managed 15 people (motormen and car inspectors) and an 80 car fleet for train make-up and car repairs at the Broad Street Subway carhouse and train yard. Was responsible for decisions regarding which cars were due for programmed maintenance, for repair of defects, for safety inspections of the cars, and was responsible for preparing trains for the morning rush hour service.

Richard T. Hallahan, PE

Design Review and Inspection - QA/QC

Mr. Hallahan is a Senior Vice President with HAKS Engineers, Architects and Land Surveyors, PC. His representative projects include:

Condition Surveys of Building Facilities, Port Authority Marine Terminal, Port Elizabeth for PANYNJ

As Principal-In-Charge, Mr. Hallahan's work involves conducting detailed in-depth inspections (100% visual and 10% hands on) to find and document any deficiencies; providing repair recommendations in the inspection report; documenting the status of previous priority repairs and safety items; evaluating their conditions at the time of inspections. Fee: $219,000 (8/09 – present)

Design of Seven Railroad Stations on the New Haven Line and Shoreline East for Connecticut Department of Transportation

Mr. Hallahan was Principal-in-Charge of rail related aspects of station design. Stations located in Darien and Milford on the New Haven Line and Branford, Guilford, Madison, Clinton, and Westbrook on Shoreline East. (2001-2007)

Design of New Haven Bus Maintenance and Storage Facility, Hamden, Connecticut for Connecticut Department of Transportation

Mr. Hallahan provided engineering services to CDOT Bureau of Public Transportation and Connecticut Transit. Construction cost $80 million. (2003-2007)

Clove Road Vehicle Maintenance Facility, Staten Island, NY for New York City Department of Environmental Protection

Provided full architectural and engineering services and design services during construction in connection of a $30M 55,000 SF building. The new Clove Road Facility will accommodate the consolidation of several DEP operations and administrative offices of Staten Island, Bureau of Water & Sewer Operations The facility will store up to 45 vehicles, from personnel vans to payloaders. The design will include offices for up to 25 administrative and supervisory personnel, and repair and staging facilities for up to 50 mechanics and field service personnel. (2004-2007)

New Britain – Hartford Busway, New Britain, CT for Connecticut Department of Transportation

The project consists of the preliminary design, program management

Education:

BS, Civil Engineering – Union College, Schenectady, NY, 1974

Professional Registrations:

Professional Engineer – State of New York, 1981, [redacted]

Professional Engineer – State of New Jersey #[redacted]

Employment History:

HAKS, 2007-Present

Baker Engineering 1996-2007

Various Other firms 1996-1977

and construction of a 9.4 mile busway extending from downtown New Britain to the historic Union Station in Hartford. Design was performed utilizing the LRFD Method. Construction cost $300 million approx. (2004 – 2007)

Westchester County Airport Security Master Plan, White Plains, NY for Westchester County Department of Public Works

Design of security enhancements for this general aviation airport. This airport is the third busiest corporate/general aviation airport in the United Sates with an annual total of 1.000.000 passengers. Priority elements that have proceeded into design include: application of glass fragmentation retention film to all glazing areas, installation of barriers and bollards to resist asset penetration by vehicles, strengthening and electronic surveillance and monitoring measures to enhance the perimeter security, installation of blast and vehicle resistant walls, relocation of baggage screening and reconfiguration of the passenger boarding area.

Railroad Bridge Rehabilitation Design and Construction Support, Matawan, NJ for New Jersey Transit Authority

Provided rehabilitation design and construction support for a bascule span railroad bridge. Project included use of counterweight modifications, maintenance of rail traffic, and installation of a retractable catenary system, structural repairs, and use of temporary supports. (1984 – 1987)

Site and Structural Engineering for Seven Winter Maintenance Facilities, NJ for New Jersey Highway Authority

Responsible for grading, paving, drainage, survey, environmental permitting and utility connections/ distribution. (1994)

SEPTA High Speed Line Curve Improvement, Norristown and Philadelphia, PA, Southeast Pennsylvania Transit Authority

Managed trackway inspection, drainage improvements, station platform modifications, and retaining wall design for high speed line curve improvement.

Light Rail Transit System Design, Bayonne and Jersey City, NJ for New Jersey Transit

Managed design of three miles of Hudson-Bergen Light Rail Transit System (Line Section S-20). This $45 million project included construction of four stations, three park-and-ride lots, rehabilitation of five bridges, and installation of 17,000 linear feet of double track.

Metro Tunnel Design and Electrical Continuity Bonding, Washington, DC for the Washington Metropolitan Area Transit Authority

Responsible for tunnel design and electrical continuity bonding for four sections of the Metro. The project included design of a specially-modified horseshoe-shaped tunnel that used custom steel and precast line sections, waterproofing details, special linear modifications, construction sequencing for difficult ground conditions, and modifications to track geometry that accommodated drainage upgrades.

Robert C. Gallup, PE

Design Review and Inspection -
Lead Civil Engineer

Mr. Gallup has over 23 years of professional experience in both the design and construction of complex projects including agency public facilities, parking lots, city streets, utilities, highways, traffic planning, and retaining walls. He has established successful working relationships with every public agency in New York City, specifically PANYNJ, NYCEDC and various affiliates, NYCDDC, NYCDOT (many groups), NYCDEP, NYCDPR, NYCT Transit, MTA NYCT Subway (Outside Projects), FDNY, TBTA, LIRR, NYSDEC, NYSDOT, and private utilities. In Connecticut, he has worked in design and construction with ConnDOT and MNR and various municipalities. His representative projects are as follows:

PANYNJ, Continental Parking Garage at Newark Airport, Senior Design Engineer

Design included stage construction of the garage with emphasis on maintaining the maximum number of parking spaces and access to the terminal during garage and roadway construction, as well as reconfiguration of existing parking to accommodate four phases of construction. Prepared maintenance of traffic plans of the existing roadways and drive aisles including placement of signs, pavement striping and barricades. ($70M)

PANYNJ, Final Design of Miscellaneous Leak Repairs, Port Authority Bus Terminal, Senior Civil Engineer

Work included detailed pavement condition survey for 3rd and 4th floors. Also contract documents, plans, specifications, cost estimates and construction support services. ($1M)

PANYNJ, Investigation and Improvements for a New Parking Lot at the Bayonne Bridge, Senior Civil Engineer

Included design of a new community parking lot at Morningstar Road in Staten Island, NY. Reviewed existing subsurface conditions from boring program, reviewed utilities for services and interferences, performed grading and drainage design and NYCDEP permitting. ($0.5M)

PANYNJ, Parking Lot Upgrade and Swing Gates at LaGuardia Airport, Senior Civil Engineer

Alternative study was performed and plans for temporary realignment designed. Project included reconstruction of preparation of contract documents, plans, specifications, cost estimates and construction support services. ($0.2M)

Education:

Master of Business Administration (EMBA), New York University, 2006

Master of Science, Civil Engineering, University of Connecticut, 2004

Bachelor of Science, Civil Engineering, Lehigh University, 1986

Professional Registrations:

Professional Engineer - Civil, New York, No. [redacted] Issued: 02/28/1993

Professional Engineer - Civil, Connecticut, No. PEN[redacted] Issued: 01/31/1992

Professional Engineer - Civil, Massachusetts, No. [redacted] Issued: 06/30/1993

Employment History:

HAKS, 2009-Present

HDR Architecture and Engineering, PC, 2004-2009

CTE Engineers, 1997-2007

Vollmer Associates, 1987-1997

PANYNJ, Reconstruction of Internal Parking Lot Toll Booths, Newark Airport, Senior Civil Engineer

Work included reconstruction of existing plaza and design for EZ Pass lanes for revenue collection.

NYCT, Design of 96th Street Station, New York, NY, Lead Civil Engineer

Supervised the preliminary and final design of horizontal alignments, roadway profiles, site drainage, utilities, site grading, pavement striping and signage, quantity and cost estimate. Coordinated with NYCDOT, NYCDEP and other agencies. ($20M)

NYCEDC, Flatbush Avenue Streetscape, Brooklyn, NY

Project Manager for the design for the utility infrastructure relocations in support of a landscape architecture prime consultant. The goal was to provide an improved pedestrian-friendly environment. The project required the construction and planting of widened medians, as well as complex coordination with city agencies, public and private utility companies and community organizations. ($23M)

NYCDOT, Preliminary Design for Reconstruction of the Grand Central Parkway and Brooklyn Queens Expressway West Leg Interchange

Led analysis of best-fit alternative and elimination of substandard roadway features, replacement of three bridges including the northbound BQE ramp over the GCP and removal of the 47th Street Bridge. Civil design included analysis of the existing drainage system, utility coordination. Design Report recommended c alternatives to be advanced to final design in phases. ($40M)

NYCDPR - Design Excellence Contract, Landscape Architecture, Lead Civil Engineer

Mr. Gallup, working under four different landscape architect prime consultants, coordinated all civil and structural engineering and permitting for 13 parks rehabilitation projects including parking areas, roadways, sidewalks, signage and lighting. ($4M) Representative projects included:

NYCEDC, Willis Point FEIS MSA Study, Project Manager

Municipal Services Alternative (MSA) as part of the FEIS that included an in-depth study of hydraulics, drainage, and water supply for the entire Willets Point Section of Queens adjacent to the new Citifield site. ($150M construction cost)

NYCEDC, Flushing Airport Site Development, College Point, Queens, NY, Project Manager

Developed the infrastructure costs and phasing for two separate development alternatives for the old airport site in an area consisting of significantly poor soils. Geotechnical coordination was a key element as the site consolidation was as much as 10 feet in depth with future as-built loading.

NYC Department of Design and Construction Task Order, Queens, NY, Project Manager

Successfully managed several Project Development Investigations (PDIs) and Final Design assignments including:

David Fickinger

Design Review and Inspection -
Chief Inspector

Mr. Fickinger is an electrical engineer with 20 years experience in construction management. He is specialized in rail electric traction and communication & signal systems. He's also experienced with building construction and the installation of perimeter security systems for state and federal correctional facilities and is actively pursuing his Professional Engineering License. His representative projects include:

Construction Inspection Services, Catenary and Bridge Rehabilitation on the New Haven Main Line. Fairfield and Bridgeport, CT for CTDOT

Major construction includes installing catenary structures, foundations and associated track, signal and communication upgrades, replacing open deck superstructures with ballasted decks, and rehabilitating abutments of five Metro-North bridges. An interim signal system will likely be installed to support the construction and final track configuration. Construction cost $75 million. (4/07-present)

Northeast Utilities Glenbrook Cables Project; Norwalk to Stamford, Connecticut

Project start-up manager for this $200 million underground 115kV transmission line. Acted as team leader for the underground portion of this Northeast Utility Company project. Managed a broad array of project issues, including State permitting, engineering, contractual procurement and coordination with other utilities. Coordinated between a large utility staff, new project management team members and other consultants in the areas of scope, schedule, costs and major technical requirements. Construction cost: $200 million.

Amtrak Bridge Replacement; New London to Groton, Connecticut

Movable span replacement and bridge rehabilitation project across Connecticut's Thames River, includes enhancements to foundations, structural steel and replacement of the existing movable span with catenary. Provided pre-construction support for the management team. Surveyed and secured the site for the client's project headquarters and provided additional support in the form of processing the contractor's questions and answers and ensuring the contract documents have been modified to be in conformance with them. Developed the specific corporate Project Execution Plan and Quality Control Plan for the project. Created the preliminary submittal log for the client and

Education:

BS - 1987/Electrical Engineering Northeastern University;

AS – 1984 Electrical Engineering Thames Valley State Technical College

Professional Registrations:

Amtrak: RWP/AMT-2/NORACRadio/ Confmed Space;

Del Norte/Southwest Microwave; Euless, Texas;

Duncan Galvanizing; Everett, Massachusetts;

MRM Security; Waterbury, Connecticut;

Siemens Transportation; Atlanta, Georgia;

2002/WashingtonIOSHA/ Safety; Qualified Supervisor Training;

Metro-North Railroad Safety Certified;

Connecticut Sex Harassment Prevention Supervisor Training

Employment History:

HAKS

UIS Consulting Services

Washington Group International

Comstock/Manzi

Fenceco

continued to provide comment on the contractor's preconstruction procedures and assist the Resident Engineer with estimating and corporate Operation Readiness Review requirements. Construction cost: $65 million.

Metro-North Railroad; Greenwich, Connecticut

Rehabilitation of overhead catenary wires and associated work, including the replacement of three railroad bridges. Represented the State of Connecticut as the Chief Catenary Inspector. Headed division responsible for the management and inspection activities of the catenary replacement and related work activities including interlock switching and control. Major duties included the review and comment of work procedures and submittals, manage and train inspection group, conduct final inspections and testing, generate and respond to correspondence and distributes payments and processes billing. On successful completion of the catenary work, continued to act as Chief Electrical Inspector for the Greenwich Station rehabilitation portion of the contract. Electro/Mechanical systems managed and inspected included: 480V Main Electrical Service; Platform lighting and receptacle power; Platform and station grounding; Railroad and standard telephone; Public address; Ticket vending; Fire alarm; Heating and ventilation; and Elevators. Construction cost: $30 million.

Amtrak High Speed Rail Electrification; New Haven, Connecticut to Boston, Massachusetts

This design/build project was a $300+ million electrification of Amtrak's Northeast Corridor between New Haven and Boston for 150-MPH operation. Initially represented Amtrak as the Chief Quality Control Engineer in the construction management of Balfour Beatty Construction/Massachusetts Electric Co., who was the designer and general contractor for this project. Immediately after the construction phase, promoted to assume the duties of Manager of Field Commissioning for the project's final turnover to the owner. Specific related work activities for each of his two roles are listed below:

State and Federal Correctional Institutions

Managed perimeter security contracts and installations at over a dozen facilities on the East Coast for Fenceco and Fenwick National Security. Upgraded security by improving fences, gates, and alarms at Bridgeport Community Correctional Center in Bridgeport, Connecticut, the Federal Correctional Institute, Otisville, New York, Connecticut Correctional Institute, Enfield, Connecticut, and the Federal Correctional Institute in Miami, Florida.

Frank J. Verderame, Jr.

Design Review and Inspection - Project Manager

Mr. Verderame has over 15 years of experience in Construction Management and Inspection of bridges and highways for various project clients including NYCDOT, NYCDDC, NYSDOT, NYSTA, NYCT, MTA (LIRR, TBTA, MN), CTDOT, NYCDEP, NJDOT, NJTA, and PANYNJ.

Expert Professional Construction Management Services for Projects on a "Call-in" Basis for PANYNJ, Project Manager

Construction management staff is provided at multiple facilities performing various tasks: Office engineering duties which includes include contract administration from pre-construction through closeout covering all financial information, payments, extra work, daily reports, material certifications, EEO and wage compliance, insurance, correspondence; Resident Engineering Inspection and Tenant Alteration Application (TAA) projects include monitoring all construction activities, daily contract paper work, auditing architects/engineers of record, special inspections, conducting preconstruction and monthly progress meetings, reviewing closeout packages, conducting and coordinating all life and safety testing and inspections before a Permit to Occupy or Use is issued. Responsibilities also include monitoring pile installation, pile repairs, wrapping, jacking, relieving platforms rehabilitation, underwater and above-water pier repairs, bulkhead repairs and new construction, fender systems, buildings, digital video monitoring systems, paving, concrete, asphalt, and other site work. Fire Safety Engineers at most facilities including all Airports focus on maintaining a fire safe environment at Authority facilities for employees, tenants and patrons and on an effective HPR- (highly protected risk) based property loss prevention program. Work includes conducting and witnessing annual and acceptance tests of fixed fire protection systems and equipment; reviewing and commenting on plans for fire code compliance, and participating in special technical investigations. Fee: $5 million (2007 – 2009)

Construction Management for NY Projects on a call-in basis for PANYNJ, Office Engineer

Construction cost: $50 million. Responsibilities include administration of pre-construction meetings and preparation of minutes; processing contractor payment applications including: entering payments into computer programs, different funds charged to different accounts, auditing contractor records for T&M work, verifying itemized and lump sum work, verifying compliance with Prevailing Wage, AAEEO &

Education:

BS Civil Engineering, Manhattan College, Riverdale, NY 1993

Licenses and Certifications:

Construction Safety & Health Training Course-OSHA, 10 hour – 2002

Construction Safety & Health Training Course-OSHA, 40 hour – 2003

Contract Administration and Management using Primavera Expedition – Etrac Solutions-2003

Bentley ProjectWise Course-2004

Concrete Construction Technology Course-ACI NJ Chapter-2005

Asphalt Paving Construction Technologist Certification-NJSAT-2005

OSHA Confined Space

Rutgers Traffic Control Coordinator – Refresher Course – 2008

Employment History:

HAKS, 1999-Present

Gandhi Engineering, Inc., 1996-1999

New York State Department of Transportation, 1993-1996

Insurance laws and regulations, preparing for Resident Engineer and Engineer of Construction's signatures, forwarding to Construction Management Division; preparing contract change orders; preparing additional lump sum and unit price conversions; performing requests for additional funds for contracts, auditing contractor proposals, estimates and submittals; processing audit requests and assisting auditors; updating financial details and construction forecasts on a monthly basis to track budgets; issuing directives for on-call contracts; updating, preparing and filing contract correspondence, specifications, drawings & submittals; scheduling inspections for all contracts; verifying compliance with changing security regulations; researching information from closed-out contracts; administering office computers (hardware & software); closing out completed contracts including: verifying and processing final financial documents for payments and preparing completion memos, certificates, permits, audits for facility, Construction Management & Chief Engineer's approvals. (11/02-2/05)

Construction Supervision Services to Resurface 74 miles of Turnpike (T200.086) and to Repair Median Drainage Inlets over 83 miles of the roadway (T200.114) for NJTA, Project Manager

Contract No. T200.086 – work include milling the existing asphalt pavement to variable depths, then laying intermediate and surface courses of Superpave hot-mix asphalt. Contract No. T200.114 – work include repairs or replacements as needed to median drainage structures, including masonry, steel castings, grates, drainage pipe and manholes. Work on both contracts performed during night shifts with mainline traffic control operations. Construction Cost $12.8 million (7/09 – present)

Catwalk Safety Improvements (T100.095) and Interim Zone Painting (T100.048) of NJ Turnpike Casciano Memorial Bridge over Newark Bay for New Jersey Turnpike Authority, Project Manager

Contract No. T100.048-Safety improvements to the catwalk system, installation of stainless steel wire safety ropes on the walkway, replacement of deteriorated walkway plates with hot-dip galvanized steel diamond plates, and miscellaneous repairs to structural steel and steel ladders. Contract No. T100.095-cleaning and painting previously painted locations of the superstructure and parapet steel to SSPC standards. The work requires shoulder closings, limited lane closings, containments for environmental protection during cleaning, painting, handling and disposal of the paint removed. Construction was performed by working 2 shifts/day during off-peak hours in order to limit traffic interference. Construction Cost $3.2 million. (8/08 – 12/09)

Jon M. Hollman CEP

Cost Estimating - Senior Cost Estimator

A practicing Cost Engineer with 27 years of experience, Mr. Hollman performs claims analyses and conceptual, design, and bid estimating of all sixteen CSI Divisions for Owners, Designers, Contractors, and Sureties. This frequently includes constructability and claims-prevention plan review; value-engineering; elements of lifecycle or LEEDS cost evaluation; and conceptual or detailed CPM scheduling to support development of the estimated duration and constructability of a project. Holman's qualifications include Certified Estimating Professional No. 47, which was confirmed by the Association for Advancement of Cost Engineering International issued in 2008. He has also led the design-build Preconstruction phase of numerous building projects and led multi-party reconciliation of 'dueling estimates' to develop evolving project budget agreements. Representative projects include Harvard University's building at 60 Oxford Street, Cambridge, U.I.S. Relocations, and Kresge Dining Hall. Mr. Hollman joined the Keville Enterprises team on the $14.8 billion Central Artery/Tunnel Project for several years, providing assessment of the scope and value of multi-million dollar claims and design changes.

Senior Estimator, 2003 to Present

Keville Enterprises, Inc., Boston, MA - As one of Keville's Senior Estimators, Mr. Hollman provides estimating services on a variety of complex heavy civil and building projects. Current and recent projects on which Mr. Hollman has provided estimating support include:

Washington Suburban Sanitary Commission (WSSC) – Senaca Wastewater Treatment Plant Enhance Nutrient Removal and Expansion Project, Germantown, MD

Mr. Hollman serves as Chief Estimator for the $30 million ENR upgrade and expansion to the Senaca Wastewater Treatment Plant. Key project elements include; conversion of the existing four basins to flexible Modified Ludzack-Ettinger (MLE) mode, construction of a secondary clarifier, the construction of a fifth aeration basin, expansion of the filter gallery to include new denitrification sand filters, construction of a methanol carbon storage/distribution facility and the construction of sludge dewatering and handling improvement facility.

Massachusetts School Building Authority, Building Condition Database

Mr. Hollman is providing cost estimating services for STV that has designed a tailor-made computer software program to prioritize MSBA

Education:

A.A. Degree, Simon's Rock of Bard College, Great Barrington, MA, 1984

Registrations:

Certified Estimating Professional No. 47, by the Association for Advancement of Cost Engineering International, 2008

Certificate in Project Management, Worcester Polytechnic Institute, 1995

Employment History:

Keville, 2003-Present

Central Artery/ Tunnel, 2001-2003

Lee Kennedy Co., Inc., 1999-2001

Independent Cost/Claims Consultant, 1997-1999

Lambs Construction, 1995-1996

funding for schools that need renovation and expansion. This first of its kind program is designed to provide MSBA the tools to establish appropriate distribution of funds by translating individual school building condition reports into capital improvement cost estimates. There are currently 3,500 individual pay items that require unit pricing. They include all building interior finishes, structural repairs, pools, exterior skin and roofing, sitework, as well as mechanical, electrical, technology, safety and security work. Pricing for majority of items ranges from minor repairs to replacement values, including two other intermediate levels of repairs. This unique program is being used to assess the needs of the state's 1,600 public schools before committing an expected $500 million annually in school renovation and expansion funds.

MBTA Silver Line Phase III, Boston MA–

Mr. Hollman supported the designer in a Feasibility Study comparing potential costs and constructability of various methods of NATM mining, TBM tunneling, cut-and-cover and surface construction, and utility work for each of seven geographic options. He further developed unit costing and estimate breakouts enabling the designer to compile option costs and file for and obtain Federal Transit Authority funding to study the Preferred Alignment. Colloquially referred to as "the next Big Dig", design and Keville support of this complex project estimated at over $1 billion continues.

M.A.R.T. Bus Maintenance and Storage Facility, Gardner, MA

Mr. Hollman performs detailed estimating of every trade and item, coupled with constructability feedback, to the design team at 30%-60%-90% designs, engendered design refinements and led to a 'tight design' at 100% Construction Documents. Favorable bids were obtained 4% below our $5.6 million estimate for this new 19,000 s.f. facility. The project includes a fueling station, bus wash facility, maintenance bays, office and storage areas, deep foundations and groundwater storage.

Stanford Linear Accelerator Center

NATM Tunneling independent estimate at 30-60-90% design, mining constructability input and value engineering, and leading the reconciliation of five estimating parties to develop owner budgeting, led to favorable tunnel bids 2% below our independent estimate of $16.4 million.

CT D.O.T. New Haven Bus Facility

Bids are pending for this complex facility estimated at over $98 million, involving pile foundations, sitework, industrial structures, specialized equipment, fueling stations, and intensive mechanical and electrical systems. Mr. Hollman led the estimating team in compilation of the estimate scopes, obtaining of vendor quotations and budgets, constructability review, and compilation to the owner's cost tracking system.

Lavern Forrest

Cost Estimating - Senior Cost Estimator

Ms. Forrest is a conscientious, detail-minded Electrical and Construction Engineer who, through 30 years of experience in airport, power, industrial and commercial industries, has built an excellent reputation for quality and in-depth knowledge of Construction Management, Field Engineering, Resident Engineering, Design Engineering, Cost Estimating, Modification Design Analysis, and Work Package Preparation. Ms. Forrest is skilled in identifying, analyzing, and resolving complex construction problems. She is diplomatic and tactful in interacting with management and colleagues as well as being effective in facilitating communication between craft, material control, document control, engineering, and start-up and testing groups. She is skilled at interpreting contract documents, specifications, regulations, and contributing to the overall project team success while maintaining a positive, productive, and harmonious work environment. Ms. Forrest is a sharp, innovative, quick learner, with the proven ability to adapt to any challenge. She is also proficient in the following computer software: Windows OS; Microsoft Office [Word, Excel, Access, PowerPoint]; WordPerfect; and Lotus 123.

Cost Estimator, 2007 to Present

Keville Enterprises, Inc., Boston, MA - Ms. Forrest is currently serving as a cost estimator in Keville's Boston office, where she is responsible for developing capital cost estimates on a variety of construction projects. Her estimating experience includes transit and railroad related contracts, traction power distribution upgrades, building renovations, building system upgrades, security systems installations, security system upgrades, security systems maintenance, and IT systems installations.

Resident Engineer, 2000- 2007

Keville Enterprises, Inc., Boston, MA – Assigned to the Expansion & Renovation of the International Terminal at Logan Airport, Boston, MA, Ms. Forrest was involved in a $210 million dollar expansion and renovation of the International Terminal at Logan Airport. Her duties involved all aspects of construction management, including coordination of work, progress monitoring and reporting, estimating, planning and scheduling, change order execution, payment requisition review, technical and engineering support, and design reviews. Other responsibilities included maintaining safe public access and the coordination of airport operations with the Airport Management and US

Education:

B.S., Electrical Engineering - University of West Indies, 1978

Registrations:

Project Management Course - Management Development Center in Trinidad, 1979

Motor Operated Valves Testing and Analysis System, 1986

40 Hr. OSHA Hazardous Waste Site Training, 1994

8 Hr. OSHA Hazardous Waste Site Supervisory Training, 2003

OSHA 10-Hour Trained

Employment History:

Keville, 2000-Present

Stone & Webster Engineering Corporation, 1987-2000

Customs & Border Protection Patrol (CBP), while executing this complex Terminal expansion project. Ms. Forrest's assignment involved management and coordination of electrical and special systems installations. The systems included Power Distribution, Security, Access Control, Flight Information Display System, Common Use Terminal Equipment, Telecommunication Distribution Networks (voice & data), Public Address and Baggage Handling. She was also involved in oversight of the early site civil package for the first year of the project. This involved inspection and oversight of: re-routing of the terminal access road; relocating sewers, drains, manholes, and other site utilities; roadway paving and striping; installation of sidewalks and curbs; associated roadway and sidewalk signage; blastwall re-configuration; fencing; and coordination of traffic detours and State Police details.

Resident Engineer, 1998-2000

Stone & Webster Engineering Corporation, Boston, MA – Ms. Forrest was assigned to the Expansion & Renovation of the International Terminal at Logan Airport, Boston, MA, and performed the equivalent duties as outlined above.

Resident Engineer/Design Engineer, 1993-1995, 1996-1997

Stone & Webster Engineering Corporation, Boston, MA - Ms. Forrest, as a Design Engineer, worked on the Millstone III Recovery for Northeast Utilities Nuclear Power Plant (1996-1997). Her responsibilities included providing and analyzing engineering input and data for plant modifications, and providing resolutions for nonconforming and adverse plant conditions. She also prepared compliance documentation and loading calculations, reviewed and provided dispositions for design changes, and evaluated design changes for impact to the plant's final safety analysis report (FSAR).

Field Engineer and Construction Marketing Manager, 1995-1996

Stone & Webster Engineering Corporation, Boston, MA – Working on the Central Artery/Tunnel Project ("CA/T"), Ms. Forrest performed field walk downs to verify compliance with design documents, applicable codes, and standards; developed punchlists; performed electrical load studies; monitored construction progress; reviewed integrated systems test procedures; and performed design and constructability reviews on other CA/T projects in the design phase. As Construction Marketing Manager, Ms. Forrest pursued prospective markets with a major focus on Intelligent Vehicle Highway Systems (IVHS) in the Transportation Industry. In this capacity, she prepared and presented proposals for various construction management projects, provided field/resident engineering, and oversaw and inspected services on industrial, government, and commercial projects. The scope included electrical and utility installations consisting of switchgear, transformers, an emergency generator system, a power distribution system, a fire detection system, and control circuitry.

Tim Burns, PE

Scheduling - Senior Scheduler

Mr. Burns has 14 years of experience in the construction industry, working primarily in project controls providing CPM scheduling, cost control, budgeting and estimating services. During the course of his career, Mr. Burns responsibilities included the development, analysis, and review of construction and design CPM schedules; analysis of potential construction claims; and CPM schedule training. Mr. Burns is experienced in Primavera Project Planner (P3), Primavera 6 for Enterprise (P6), SureTrak, Microsoft Project Scheduling Software, Claim Digger, and Schedule Analyzer Pro Schedule Analysis Software.

Senior Project Controls Engineer, September 2008 to Present

Keville Enterprises, Inc., – Mr. Burns serves Keville Enterprises as Senior Project Controls Engineer. While at KEI, Mr. Burns duties have included: developing design, construction, and program schedules; reviewing contractor submitted baseline schedules and schedule updates; analyzing claims, with an emphasis on schedule related claims; claims avoidance reviews; and developing project cost and schedule control systems.

TX DOT Houston District CPM Scheduling Services Evergreen Contract, Houston, TX, 2004-September 2008

Mr. Burns was the Senior Scheduling Manager for this CPM Scheduling task order contract with the TX DOT Houston District. The contract consisted of 10 task orders for 13 highway construction projects with a combined construction value of $550 million. His responsibilities included CPM schedule analysis of the baseline and monthly updates for each construction project in support of TX DOT project personnel. Potential delays were analyzed through the schedule to determine impacts and proposed methods of mitigation. Impacts that could not be mitigated were analyzed and recommendations for time extensions provided, along with cost analysis as required. During the prosecution of the 13 projects in this program, only one project experienced delays that could not be resolved through the schedule and a formal claim for time impacts and project overhead costs was received. Following analysis of the claim and through negotiation with the contractor, this single claim was resolved for time and costs at approximately 40% of the original claimed value.

US-290 Program Management, Houston, TX, 2006-September 2008

Mr. Burns provided schedule development and reporting services as

Education:

B.S., Civil Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, 1994

Registrations:

Registered Professional Engineer, Virginia, 2001

Computer Programs: Primavera Project Planner (P3), Primavera 6 for Enterprise (P6), SureTrak, Microsoft Project Scheduling Software, Claim Digger, and Schedule Analyzer Pro Schedule Analysis Software

Employment History:

Keville, 2008-Present

Consultant, 1996-2008

part of the Program Management Consultant ("PMC") team for this 10-year management contract with TX DOT covering a 38-mile corridor in Houston. Responsibilities included the development of the master schedule for the PMC team using Primavera P5. A base work breakdown structure was developed to indicate the base organization for the team and provide reporting levels through the schedule. Resource and cost loading was introduced to manage project staff and evaluate budgeted costs against actual costs through earned value analysis methods to track the program performance. The corridor program financial plan information for available project funds was introduced separately to monitor client cash flow. The development of templates for subconsultant Section Design Consultant (SDC) schedules to be brought onboard in 2008 were completed and provided to each section designer to ensure consistency in the structure and reporting levels of the SDC schedules with the base master schedule.

US-183A Turnpike, Austin, TX, 2005-2007

Mr. Burns provided monthly CPM schedule analysis for this design-build project as part of the General Engineering Consultant ("GEC") team for the Central Texas Regional Mobility Authority. His responsibilities included preparing a summary report of the developer's progress; determination of potential impacts and delays; and using the cost-loaded schedule to validate the developer's monthly draw requests. Tracking of the developer's progress was paramount in this nearly $180 million project, as the contract needed to be substantially complete and operational for toll collection in 2 years.

I-494 Improvements Design-Build GEC, Minnetonka, MN, 2004-2006

Mr. Burns provided monthly CPM schedule analysis for this design-build project as part of the GEC team. His responsibilities included preparing a summary report of the developer's progress and determination of potential impacts and delays. This project had an estimated construction cost of over $130 million, covering 7.8 miles of interstate widening and improvements.

I-465 West Leg Reconstruction, Indianapolis, IN, 2003-2004

Mr. Burns maintained the design schedule for this major interchange design project. The baseline schedule was developed as part of the initial solicitation response and was refined to use as the workplan to complete the design process. The design schedule incorporated all major items required by the scope of the contract and allowed the design management team to gauge the progress of the design effort at monthly intervals. This program included design efforts from 5 other subconsultant designers in the final design phase incorporated into this general design schedule.

US281/IH410 Interchange, San Antonio, TX, 2004-2006

A conceptual construction schedule was developed near the end of the design process to validate the sequence of construction and to determine attainable milestone dates for the construction contract. The plans were reviewed and production rates determined using historical data supplied by TX DOT to create an example of how the project could be constructed within certain time and resource constraints.

Thomas R. Myers

Scheduling - Scheduler

Mr. Myers is a Clemson University graduate and has a Bachelor of Science Degree in Civil Engineering. He also received his Master of Science degree in Civil Engineering from Northeastern University. During his Master's Degree studies, Mr. Myers retained the position of a Teaching Assistant and was responsible for conducting and assisting with the Undergraduate Construction Management course which covered the use of Primavera Scheduling Software. Mr. Myers prepared a Master's Thesis at Northeastern University that introduced the methods of Schedule Delay Analysis, with a focus on explaining and defining the benefits of Window Analysis. Since joining Keville Enterprises, Inc., Mr. Myers has utilized his scheduling, cost/budget management and document control expertise for the Massachusetts Bay Transportation Authority on its $700M Silver Line Phase III Project, and currently for the Port Authority of New York and New Jersey on the $700M+ Goethals Bridge Modernization Program.

Project Controls Engineer, 2004 - Present

The Port Authority of New York and New Jersey, Goethals Bridge Modernization Program, New York, NY

Keville Enterprises, Inc. is part of the HNTB•FIGG JV project team which are providing preliminary design services for the Goethals Bridge Modernization Program for the Port Authority of New York and New Jersey. The program includes the proposed replacement of the existing 80-year-old Goethals Bridge which spans the Arthur Kill between Staten Island, New York and Elizabeth, New Jersey and serves as a main connector to the Staten Island Expressway (I-278)/West Shore Expressway (SR-440) to the east and the New Jersey Turnpike/NJ Routes 1/9 to the west. As part of the team, Keville is providing CPM scheduling, cost/budget management, document control and project administration services for the preliminary design phase. Mr. Myers has assisted in the development of the design baseline schedule and the project Work Breakdown Structure and currently maintains and prepares monthly status schedule and cost reporting utilizing Primavera P3.1 and P6 software. In addition, he assists the GBMP program scheduler with the overall integration of the EIS and Design work schedules. Mr. Myers is responsible for reviewing and coordinating JV monthly project invoicing and following up on accounts receivable. Also, he developed the Document Control Policies and Procedures Manual and currently oversees the JV in-house document control system utilizing Primavera Expedition software and manages the PANYNJ document control system Live Link for the project design team.

Education:

M.S.C.E., Northeastern University, Civil Engineering (Construction Management), 2002

B.S.C.E., Clemson University, Civil Engineering, 2000

Registrations:

Registered Professional Engineer, Virginia, 2001

Computer Programs: Primavera Project Planner (P3), Primavera 6 for Enterprise (P6), SureTrak, Microsoft Project Scheduling Software, Claim Digger, and Schedule Analyzer Pro Schedule Analysis Software

Employment History:

Keville, 2004-Present

Massachusetts Bay Transportation Authority, Silver Line Phase III, Boston, MA

As part of the Construction Management and Design team overseeing the development of the third phase of the MBTA Silver Line Project, Mr. Myers provided Document Control Management for the Project Controls team. His responsibilities included the management and distribution of incoming and outgoing project-related correspondence, as well as developing the Design Team's Document Control Drawings & Reports Library. He contributed to the development of the Document Control Policies & Procedures Manual and provided Document Control updates and memoranda addressing Project Control issues for the URS-DMJM Joint Venture team. Mr. Myers is the point of contact for organizing and managing all Pre-Inspection Reports for buildings along the Silver Line Alignment. During his time on the Silver Line Project, he also provided individual training and instructional memoranda for Primavera Expedition and ImageTool document control software. Additionally, Mr. Myers generated new reports for the Document Control system using Primavera Infomaker software.

Teaching Assistant for Construction Management Program at Northeastern University, Boston, MA, 2000-2002

NUTA - As a Teaching Assistant, under Dr. Ali Touran, Mr. Myers was responsible for assisting with the preparation and teaching of a Construction Management course. He was an Educator and Advisor for students regarding the use of Primavera Scheduling Software.

Various Undergraduate and Graduate Scheduling Projects, 1997-2000:

Junior Claims & Change Order Analyst Assistant

Hillsborough High School, Hillsborough, N.J. - During an internship, Mr. Myers worked with the owner's legal representation in support of an affirmative claim. His responsibilities were to review multiple change orders, collect data from the site and subcontractors, and assisted with the closeout of the remaining work for the project. During this time, Mr. Myers was able to increase his computer skills preparing spreadsheets for data collection, and gained a better understanding of analyzing change orders.

Junior Schedule Delay Analyst Assistant

United States Embassy Building, Caracas, Venezuela - As an assistant to a group of schedule delay analysts, Mr. Myers provided his computer skills to code As-Planned to As-Built Schedules in reference to the review of a claims issue. Using Primavera Software, he analyzed both schedules to discover and report schedule delay situations. Review of daily reports and schedule updates was also necessary to help find reasoning for delay.

Paul Rudderow

Scheduling

Paul Rudderow, a Planning & Scheduling Professional, has over 20 years of experience in project controls, and claims consulting. Mr. Rudderow joined Envision as a Senior Consultant of the Project Controls Group. His experience spans a variety of facilities, including transportation facilities, schools, commercial buildings, prisons and power, cogeneration, biopharmaceutical manufacturing, environmental, and semi-conductor facilities. Mr. Rudderow has managed project controls groups, served as on-site project controls supervisor, acted as owner's representative for estimates and schedules, and performed project management and superintendent duties. Mr. Rudderow's software experience includes MS Visio, MS Projects, Primavera Project Planner (P3 & P6), Primavera SureTrak, Primavera Contract Manager, SAP Project Systems, Accelerated Project Scheduler 6, and QuickPen AutoBid Mechanical Estimating.

Envision Consultants Ltd., Mullica Hill, NJ, Senior Scheduler/ Claims Consultant

The following list demonstrates a small sampling of the diverse projects Mr. Rudderow has worked on while at Envision:

- FTA PMO Oversight Region VIII, Denver, CO Envision is a sub consultant to STV, Inc. accountable for schedule review/ oversight and participation in Risk Assessment and Cost Workshops that include the East Corridor Extension and the Gold Line Extensions for RTD. Mr. Rudderow is responsible for understanding and meeting FTA Guidelines as it relates to the schedule oversight, risk assessment and overall cost of the project. His role requires strong communication, writing and team participation skills while working on this type of assignment.
- SEPTA Silverliner Railcar Procurement Envision is a sub consultant to STV, Inc. accountable to review the car builder's baseline manufacturer schedule and progress updates, and review schedule for potential claims and mitigation.
- NJ Transit 69th Street Project Envision is a sub consultant to STV, Inc. accountable to review the contractor's baseline manufacturer schedule and progress updates, and review schedule for potential claims and mitigation.
- PennDOT CM/CI – SR 1058 PA 63/309 Connector Phase 1 Envision is a sub consultant to Pennoni accountable for

Education:

Masters of Science in Engineering Management, New Jersey Institute of Technology, 2005

Bachelor of Science, Construction Management, Drexel University, 1994

Associate of Science, Architectural Design, Mercer County Community College, 1983

Registrations:

PMI Planning and Scheduling Professional (PSP)

Professional Memberships:

Association for the Advancement of Cost Engineers (AACE)

Project Management Institute (PMI)

Employment History:

Envision Consultants Ltd., 2009 – Present

Hill International, 2003 - 2009

PSEG Energy Technologies, 1999 - 2003

Day & Zimmerman International, Inc., 1995 - 1999

Quasar Engineering, Inc., 1992 - 1995

Integrated Project Services, 1991 - 1992

Bannett Builders, 1986 - 1991

M & R Construction Company, 1983 - 1986

schedule review/oversight. Mr. Rudderow is responsible to analyze and evaluate the CPM schedule for the construction project in conjunction with the contract documents and the contractor's submitted CPM schedule monitoring progress during construction.

- West Philadelphia Replacement High School, Philadelphia, PA Envision is a sub consultant to Felder/Armand JV accountable for the review of the contractor's schedule that is cost and resource loaded.

Hill International, Marlton, NJ, Managing Consultant

Accountable for performing project document and schedule reviews, identifying project schedule critical paths, identifying possible causes for project delays and creating graphical representations of the as-planned and as-built critical paths. Overlaying project activities that affected the schedule and identifying possible causation for delays. Developed matrix spreadsheets to identify project issues, available supporting information, possible entitlement and estimated delay time periods. Performed site visits at multiple locations for inspecting, photographing and documenting actual site conditions for completed work. Verifying quality of completed work and reported percent complete. Performed monthly analysis of contractor's supplied project schedules by comparing current schedule with previous month's schedule. Identifying progress and logic change per schedule update and developing earned value systems for tracking and graphing contractor's reported progress. Developed owner reports to identify changes and evaluate which changes might lead to contractor claims. Below is a sampling of the diversified projects Mr. Rudderow worked on:

- New Jersey Transit Rail Network, Newark Subway Project, Newark, New Jersey.
- I-95 Reconstruction, S.R. 0095 Section RS3, Pennsylvania Department of Transportation, Philadelphia, Pennsylvania
- Atlantic City Expressway, Southern New Jersey
- Miami International Airport People Mover Project, Miami, Florida
- O'Hare International Airport Renovation Project, Chicago, Illinois
- Cross County Metrolink Extension, St. Louis, Missouri
- Killingly Substation Delay Analysis, Killingly, Connecticut
- Manufactured Gas Plant, Leonard Avenue Remediation Activities, Atlantic Highlands, New Jersey
- Oley Valley School District, Oley, Pennsylvania
- Downingtown Senior High School, Downingtown, Pennsylvania.
- Oakland Public Library Addition and Alterations, Oakland, New Jersey
- Longwood at Wildsprings, Williamstown, New Jersey
- National Constitution Center, Claims, Philadelphia, Pennsylvania
- The Gannett Building, McLean, Virginia

Edmond A. Boni

Planning and Vehicle and Safety Certification

As Vice President of Transportation for Interactive Elements Incorporated, Mr. Boni is responsible for all of the firm's rail operations and safety activities. He directed the development of the firm's pioneering roadway worker protection program that is currently training workers for numerous rail construction projects in the Northeast. Other major projects have included: for FTA PMO, ARC, analysis of operational issues; Construction Management services on NJT's renovation of Penn Station's East Concourse; LIRR Signal/Grade Crossing Study (1996), Safety Review of WMATA (1997, for FTA, in response to the Shady Grove fatal accident), and grade crossing issues in high speed light rail systems (1997, TRB). He played a key role in the firm's investigation of shoe beam incidents at the LIRR. Recently he has been involved in analyses of operational scenarios for the LIRR East Side Access project, in State Safety Oversight of the Miami Dade Transit Agency for the Florida DOT, and in System Safety and Fire-Life Safety aspects of the Denver T-REX light rail project (FTA PMO).

Mr. Boni was the Deputy Project Manager for a comprehensive assessment of life safety in Pennsylvania Station New York and its associated tunnels (AMTRAK), responsible for assessing railroad operations and emergency response procedures, safety and security, codes and standards, providing operations input to hazard analysis and risk assessment, and determining the impact of proposed improvements on normal and emergency train operations. He also led the firm's efforts in the writing of a Track Maintenance Manual for AMTRAK.

He was responsible for rail operations and safety on the New Rochelle Flyover Project (Metro-North). Duties included developing and administering safety training programs for contractors, developing track/power outage and construction staging plans, and serving as liaison with Metro-North and Amtrak operating and planning departments. He directed rail operations coordination and contractor safety on the Kearny Connection Project (NJT) and authored Construction Contractor Safety Training Program for Supervisors and Workers that taught more than 400 construction workers to work safely under rail traffic; this program allowed the 6-year, $60 million project to be completed without a rail accident.

He also directed firm's contributions to numerous projects, including: a study of 300 grade crossings (NJT), CM for new stations on the Upper

Education:

Rail System Safety, USDOT, Transportation Safety Institute, 1993

Rail Accident Investigation, USDOT, Transportation Safety Institute, 1992

Signal Design, George Washington University, 1987

Graduate Studies, Management Program, Northwestern University, 1985

Graduate Studies, University of Bridgeport, 1962

BS, Business Management, Quinnipiac College (CT), 1960

Licenses and Certifications:

Asbestos Handling, Supervisor, Project Monitor, New York State, 1994

Professional Memberships:

Metropolitan Association of Railroad Superintendents

Employment History:

Interactive Elements Incorporated, 1990 - present

Gibbs & Hill, Inc., 1988 - 1989

MTA Metro North Railroad, 1983 - 1988

Consolidated Rail Corporation, 1980 - 1982

Harlem line (MNR), the New Haven Line Drainage Improvements project (NMR), the Rahway Station Rehabilitation (NJT), Park Avenue Viaduct Rehabilitation (MNR), Northeast Utilities Project on Metro-North's right of way, New Technology Signal System Study (NYCT), and a new command center for the nation's largest rail transit system (NYCT).

Prior Experience

As Assistant Vice President of Transportation And Infrastructure for **Gibbs & Hill Incorporated,** Mr. Boni was responsible for the administration and financial performance of all offices of the Transportation and Infrastructure Department, including the New York headquarters (25 professionals) and regional offices in Washington, DC (20), Chicago (7), and St. Louis (3).

He increased booked contracts from $6 million to $20 million; reorganized the Department to reduce operating costs and increase efficiency; personally supervised ongoing contracts totaling $7 million; directed a team that won a $12 million design and construction management contract from ConnDOT; led teams that won an additional $8.1 million in contracts; served as an expert defense witness for the nation's largest commuter railroad, providing testimony that led to a favorable settlement. He served as Project Manager for installation of a new catenary system on Metro-North Railroad's New Haven line.

As General Superintendent of Transportation for **MTA Metro-North Railroad**, Mr. Boni was responsible for the daily movement of 527 trains and 180,000 riders over 285 miles of track on the Harlem, Hudson, and New Haven lines, including timely, safe arrival and departures of all trains.

He increased on-time performance from 80.3% in 1983 to 94% in 1987; directly supervised manpower control (dispatching of train and engine crews), tower operation, command center, and a total of 40 management and 1,350 union employees; managed transportation-related capital programs to ensure that they met the operating requirements of the railroad, that construction had minimal effect on service, and that costs were kept within budget.

He also administered $100 million budget, requiring close monitoring of overtime and deployment of personnel; negotiated changes with unions and achieved 30% savings in overtime; established and directed employee safety programs that yielded a reduction in lost-time injuries from 132 in 1984 to 67 in 1987 and resulted in over $1 million in savings; directed the investigation of commuter complaints and responded with appropriate remedial action; and reduced customer complaints by 30%. Mr. Boni was responsible for administering existing labor agreements, discipline programs, and compliance with company operating policies. During three years of labor negotiations, there were no slowdowns or work stoppages occurred. He ensured compliance with regulations of all federal, state and local agencies.

As Regional Manager of Manpower Control for **Consolidated Rail Corporation,** Mr. Boni was responsible for overall supervision and dispatching of train and engine crews including passenger, Amtrak, and Northeast Conrail freight, including interpreting UTU, BLE, and BRAC union agreements. He served as a member of Transition Committee for Metro-North. After divestiture, he created new transportation department from previously existing regional subsidiary.

Michele Butchko, AICP

Planning and Vehicle and Safety Certification

Ms. Butchko has more than twenty-five years of experience in transit and city planning, project and program management, and project and program implementation in the public and private sectors. She has a long record of public service and an extensive background in planning and public policy and has worked in diverse areas of the transit industry. She has expertise in FTA New Start and Triennial Review regulations and procedures, including the environmental and historic requirements for major projects. Mr. Boni was the Deputy Project Manager for a comprehensive assessment of life safety in Pennsylvania Station New York and its associated tunnels (AMTRAK), responsible for assessing railroad operations and emergency response procedures, safety and security, codes and standards, providing operations input to hazard analysis and risk assessment, and determining the impact of proposed improvements on normal and emergency train operations. He also led the firm's efforts in the writing of a Track Maintenance Manual for AMTRAK.

As Director, Planning & Development for **Interactive Elements Inc.,** Ms. Butchko plays a critical role in the firm's assignments in transit planning, project implementation, and construction management. She is part of the PMOC team for NJ Transit's THE Tunnel project for the construction of two rail tunnels under the Hudson River, providing oversight and expertise during the EIS and PE processes for the $6.7 billion New Start project. Ms. Butchko recently completed a Stakeholder Analysis to assist in determining project risk. She was the Project Manager on TCRP-A9, a study of light rail audible signals; she developed Program Management policies and procedures for a multi-million dollar capital plan for the RTA in Las Vegas, Nevada; and she has revised APTA's Manual for the Development of System Safety Program Plans for Commuter Railroads. She recently completed a study to determine physical attributes present at sites of commuter rail and transit suicide incidents that may contribute to or fail to prevent these occurrences for the USDOT/FTA/FRA research project called Preventing Rail Transit Suicides.

Ms. Butchko's knowledge of FTA regulations and procedures has allowed her to conduct Triennial Reviews for more than 60 public transit agencies to determine grantee performance and compliance with FTA's current programs and policies. As a lead reviewer and regional coordinator, Ms. Butchko organizes and conducts desk reviews;

Education:

MS Management and Urban Policy/Nonprofit Management - Robert J. Milano Graduate School of Urban Policy and Management, New School University

BS Education - Curriculum and Instruction, University of Oregon

Professional Memberships:

American Institute of Certified Planners

Architects, Designers and Planners for Social Responsibility

American Planning Association

Womens' Transportation Seminar

Employment History:

Interactive Elements Incorporated, 1996 - present

Self-Employed Management Consultant, 1994 - 1996

Metropolitan Transporation Authority, 1992 - 1994

MTA Metro North Railroad, 1983 - 1992

prepares draft and final reports, documents the review findings and lists the corrective actions necessary to bring these agencies into full compliance with FTA's requirements. She served as an instructor at four regional Triennial Review Workshops in 2007 and has provided logistical support working with all ten regions and headquarters since 2005.

From 1998 to early 2005, Ms. Butchko served as the Director of Government and Community Relations and de facto Chief of Staff for NJ Transit's $1.7 billion Hudson-Bergen Light Rail System Design-Build-Operate-Maintain project as a direct report to the President and CEO. She was the primary public interface for the project, handling critical issues relating to community affairs, incidents, and the media, while also interacting on a daily basis with elected officials, contractors, residents, and merchants. She was a long-standing member of the project's Fire Life Safety Committee, working with emergency responders from six municipalities and was an integral member of the 9-11 response team. She led the Safety Certification process for the Newark City Subway extension, an $86 million part of the HBLR project. She has also designed and supervised other public outreach programs in complex settings.

For an Amtrak Comprehensive Evaluation of Existing Life Safety Improvements for Pennsylvania Station New York, the East River Tunnels, and the Hudson River Tunnels, Ms. Butchko developed a digital database of the NYC Transit's signal system assets after conducting an inventory and analysis to establish a common set of Signal System Design Standards for NYCT. She also revised APTA's Manual for Commuter Railroad System Safety Program Plans as part of an overhaul of the APTA review process.

As a **Management Consultant,** Ms. Butchko provided technical assistance, strategic and short-range planning, research, and training for public, private, and non-profit organizations. She prepared, reviewed, and commented on a wide variety of planning texts, proposals, and construction documents. She conducted multiple planning and land use studies and worked with agencies to provide budget, management, funding, and staff development strategies. With her extensive knowledge of fare collection practices, fare box designs, driver training, and union regulations, she consulted with and assisted agencies including NJ Transit, NYCDOT (paratransit), and Fairfax County (VA) in the development of ridership survey and revenue protection programs. She reviewed and recommended for approval draft and final EIS's and worked with transit applicants to assure compliance with all applicable environmental laws and regulations. She prepared documentation to comply with Section l06 of the National Historic Preservation Act and Section 4(f) of the US DOT Act, and provided guidance and assistance to transit agencies in the preparation of EA's, FONSI's, and Categorical Exclusions.

Michael J. Cephas, Sr.

Planning and Vehicle and Safety Certification

Mr. Cephas is an experienced transit safety and security specialist who has managed the certification and rail activation of major transit systems and extensions. During a thirty four-year career, he has moved from hands-on track maintenance responsibilities through positions of supervisory and management authority. He has managed the integration of safety and security more fully into transit projects, from the preparation of PHAs and TVAs, through development of certification programs, to overseeing certification testing and rail activation. He managed the implementation of such certifications in accordance with FTA guidance. While at Port Authority Transit (Pittsburgh), he played a key role in resolving labor-management issues.

Mr. Cephas is currently Manager of Safety and Security Certification for **Interactive Elements, Inc.** Since joining IEI, Mr. Cephas has worked with the FTA on project management oversight, supervising safety and security certifications for various light rail initiatives. Mr. Cephas' most recent projects include the Los Angeles Metro Gold Line East Side Extension (MGLEE) and the Access to the Region's Core (ARC) Projects. He has also worked with the South Sacramento Corridor Project's Phase 2 initiative. Mr. Cephas is presently monitoring rail activation activities for the MGLEE project. He has also reviewed the MGLEE Safety and Security Management Plan (SSMP) and start-up procedures and conducted a review of the SSMP for Phase 2 of Sacramento's South Corridor Project. In addition, Mr. Cephas has prepared the Preliminary Hazard Analysis Plans for three of Denver RTD's FasTracks initiatives: the West Corridor, Southeast Extension, and Southwest Extension and has reviewed the Threat and Vulnerability Analysis, Safety and Security Plan, and Open Items list for the West Corridor.

As Manager, Safety and Securtiy Certification for **DMJM Harris/ AECOM,** Mr. Cephas managed the Port Authority's Track Entry Training Program, which provided instruction and certification to more than 1300 persons. He also directed safety and security for several high profile projects, including:

- North Shore Connector (NSC) LRT Expansion Project – Port Authority Transit (Pittsburgh) – As the NSC Safety and Security Certification Manager and Chairperson of the Safety and Security Certification Review Committee, Mr. Cephas prepared the agency's SSMP and managed

Education:

Liberal Arts Curriculum, 1969 – 1971, University of Pittsburgh

Aeronautical Mechanics Courses, 1972 – 1973, Pittsburgh Institute of Aeronautics

Track Maintenance Course, 1982, Railway Educational Bureau

Port Authority of Allegheny County training courses in Management, Labor/ Management Relations, and Teambuilding

APTA, Rail System Safety and Security Seminars, June 2005

Courses in Microsoft Office, Windows NT, and Track Maintenance

U.S. Army Reserves 1971-77 Honorable discharge U.S. Army/NSA Military Intelligence as Spec. 5

Professional Memberships:

Board of Directors for Inroads/Pittsburgh

Pittsburgh Council for International Visitors

Member of Conference of Minority Transportation Officials (COMTO

Employment History:

Interactive Elements Incorporated, 2008 - present

DMJM Harris/AECOM, 2001 - 2008

Port Authority of Allegheny County, 1975-2001

the development of review checklists and the safety certifiable items list. He prepared both the PHA and TVA, managing the identification, categorization, and resolution of safety and security issues through each phase of the project life cycle.

- Stage II LRT Expansion Program – Port Authority Transit (Pittsburgh) - As Chairperson of the Safety and Security Certification Review Committee verifying safety-related contractual compliance, Mr. Cephas developed the Certifiable Elements List, criteria and specification conformance checklists and managed the entire safety and security certification process through start-up, including updating the Authority's Management Configuration system.
- Program Management Consultant, Miami-Dade Transit Authority - As a member of MDT's Program Management Consultant Team, Mr. Cephas assisted with updating the design criteria of three major transit projects: the Miami Intermodal Center (MIC)-Earlington Heights Connector Metrorail Extension, the North Corridor Metrorail Extension, and the East-West Corridor Metrorail Extension. He prepared SSMPs and Safety and Security Certification Plans for the North Corridor Extension Project. Mr. Cephas has also prepared a PHA and TVA for the projects. He managed the updating of the System Security Plan, Security Design Criteria, Critical Elements Lists, Criteria and Specification Conformance Checklists, Specification Review Checklists, Emergency Response Procedures, and other related documents.
- Safety and Security Task Leader, Phoenix Metrorail Northwest LRT Extension Project - Mr. Cephas developed an SSMP, SSCP, and Certifiable Elements list for the Project that includes approximately 3.2 miles of double track in the North West/Phoenix East Valley area.

For **The Port Authority of Allegheny County,** Mr. Cephas served in positions of increasing responsibility in maintenance of way, including:

- **Assistant Manager of Way, Structure and Amenities** - Mr. Cephas directed 7 supervisors and 75 employees in the maintenance of the Port Authority's light rail trackage, busways, park-and-rides, bus garage grounds, and bus loops. He established capital budgets for special construction projects, assisted with organization and planning of annual Department work schedules, coordinated with civil leaders and contractors regarding special construction projects, and organized and directed the Port Authority's snow removal plan.
- **Way Department Lead Supervisor** - Responsible for the supervision of 50 employees, Mr. Cephas scheduled work-tasks for maintenance and construction projects. He coordinated with department managers, community organizations and elected officials, maintained the fiscal management of maintenance and construction projects, and served as Project Manager for the Port Authority's Asphalt Paving Service Contract.
- **Way Department Maintenance Foreman** - Mr. Cephas supervised a crew of 13 employees responsible for track maintenance, replacement of grade crossings, and maintenance of right-of-way. Mr. Cephas was responsible for employee discipline, in accordance with operating rules.
- **Way Department Trackman** - In Mr. Cephas' first position at the Port Authority, he was required to have a working knowledge of asphalt and concrete applications, and was responsible for hands-on track maintenance and replacement, and system right-of-way maintenance.

Technical Approach

Technical Approach

Task A: Coordination of Path Track Consultant's Task's

Our team has a multi-layered approach that has been used successfully in past programs.

As part of the Master Project Schedule, (Task B), a Project Management Team (note 1) will develop a strategy for a 3 Phase Track Access Request Plan that meets the needs of the railroad and the construction schedule. The group will consist of railroad personnel from PATH, 3rd party contractors (if contracted), the designers and the Project Management Team. The Project Manager, Robert Spero, will take the lead of this group.

The first phase will be a one year look ahead meeting. This group, led by the Project Manager, will take the construction for the next year and lay out the schedule for all the major outages that will be needed. The group will review the railroad force account work and the 3rd party work to develop a work schedule that meets the milestones for each task. This will include resource leveling and gap analysis. The PATH Forward Partnership brings over a century in experience from previously working with Amtrak, MNR, NJT and the LIRR. We will work with PATH to set priorities for work. We will review weekend and night outages and the affect on train service and customers. This plan would include all 3rd party contractors' schedules for the upcoming year, all existing railroad state of good repair maintenance, the new capital work, and any equipment needs.

The second phase would be an eight week look ahead meeting. This would be a monthly meeting which would take a more in-depth look at the outages and the work. The track outage for this work and the needed resources and equipment would be developed at this meeting. Any weekend or night outages which may require Police or Passenger Services would start to be developed at these meeting. The access and protection for 3rd party work and the limitations of each outage would be agreed upon at these meetings.

The final and third phase would be the weekly construction meeting. Led by the Field and Planning Coordinators, these meetings would service as a checks and balance to ensure that the ongoing work has been completed and on schedule and to review the work for the upcoming week. From these meetings the track outages and resources would be ordered for the upcoming week. At these meetings any emergencies or weather related problems would be discussed, as well as any request for additional work that was unforeseen would be addressed in a Site Specific Work Plan (SSWP)that lays out exactly how the work will proceed for a any work activity in such a manner that a detailed picture of the activity is depicted.

From these meetings weekly construction update reports would be provided regarding the construction schedule, budget, and milestones. These would be used to provide monthly updates to Senior Management of the schedule and budget of each project.

In order to maximize the use of outages with the least disruption, PATH wants to be able to test various combinations of off-peak, overnight and weekend track outages and single-track operation in support of maintenance and construction activities. Included in the mix is the need to

schedule material deliveries and pick-ups via rail to the WTC site. These moves are either made using work trains powered by converted transit cars, or using a diesel powered locomotive.

SYSTRA has extensive experience evaluating and confirming the operational feasibility of rerouting strategies to accommodate construction related track outages, using the RAILSIM Software Suite network simulation tool. Recent examples of this kind of track outage simulations include the following:

- Simulations of operations through Harold interlocking on the LIRR as part of the construction staging for the East Side Access project, and
- Simulations of operations between West End Interlocking and Hoboken Terminal for NJ Transit Rail Operations during the Bergen Tunnel Reconstruction
- Simulations of PATH operations in 2008 verifying the feasibility of the two-platform track outage at WTC.

In addition to the recent simulations of the WTC platform track outage, SYSTRA has used RAILSIM on two other major PATH projects:

- Fleet Requirement simulations
- Tunnel E&F signal design and simulations

Previous simulations SYSTRA has performed for PATH have only modeled revenue and scheduled non-revenue train movements. In support of the need to simulate various track outage scenarios, SYSTRA will update its PATH model to ensure that movements against the normal current of traffic will be supported, as well as all crossover routes, including those that are not normally used by scheduled trains. This would include crossovers at Exchange Place, Grove Street, Journal Square between and including Portal and West Side, and the Pocket Track east of Harrison Yard. Additional updates to the model to reflect recent changes, such as the reduction in operating speed over certain diverging routes through Caisson 1 interlocking, will also be made. SYSTRA will also update its rolling stock library to include non-revenue and work train equipment.

PATH has expressed the desire to perform outage simulations in-house on a very short time frame. To support this effort, SYSTRA can develop an operating plan spreadsheet that will allow PATH to add, subtract and reroute trains quickly and easily, with a quick export of the new operating plan into RAILSIM for simulation. SYSTRA will provide training on the use of the spreadsheet and associated macros, as well as refresher training on the use of the simulation tool itself. SYSTRA will be available at any hour to provide technical support to PATH as it defines the scenarios and performs the simulations.

Task B: Coordination and Evaluation of Schedules

The development of a Master Project Schedule will be essential to the success of the future Path Capital Program. This Master Project Schedule must be coordinated and developed using information from Paths' ongoing daily maintenance programs, the existing Capital Projects and

the new Capital Projects. A determination of all new Capital Projects, regarding the highest importance or priority to Path Train Service would be developed first. Once the priority of the work for the future has been developed the Master Project Schedule can be developed.

The development of the Master Project Schedule will be developed using the existing constraints as a starting point. The 3 major constraints for this capital work will be the funding of the work, (time & budget), the resource loading of force account (manpower availability), and track access (work time). All of these constraints must be developed into the schedule as not to affect 3rd party contractors, railroad construction or daily on time performance.

As the Master Project Schedule will be maintained for the life of the project, it will be developed and updated on an annual basis. This will allow for the development of a baseline budget for the life of the projects, the creation of a resource loading plan for design, construction and final testing and startup, and the scheduling of resources throughout the project's life.

The Master Project Schedule will drive the Track Access Requests. As discussed in Task A, a 3 phase plan will be developed to meet the schedule mile stones and develop alternative plans for other impacts such as, weather, railroad emergencies, or everyday railroad work.

The funding for this project will be laid out for the life of the project. Many times funding is not all up front and must be staged over the course of a project. Drawdown also needs to be predicted to ensure the proper management of funds that are available. This funding strategy will be part of the development of the Master Project Schedule.

Resource availability will be a major constraint throughout the life of this project. There are several directions that the project my take. One option would be to farm out some of the work to 3rd party contractors. This would reduce the resource loading concern and railroad forces would be used for access and protection and final cutovers only. Another option would be for the Railroad to provide the force account to complete as much of the work as possible. There are two major concerns with this option:

- First, the training of these railroad personnel could take up to 2 years to complete. This would cause a delay to the Master Project Schedule; and
- Second, after the work is complete the railroad may be overstaffed.

Because of these concerns a third option could be considered to resource the project using both 3rd party contractors and railroad staffing. This approach would allow the project the most flexibility to remain on schedule and within budget.

Track access is discussed in Task A, above.

Task C: Evaluation of Path Facility Force Requirements

The use of Facility Forces is a common issue among most railroads having major Capital Programs. Railroad Facility Forces are a finite group, who in many cases has maintenance and emergency responsibilities in addition to Capital Program responsibilities. Many of our team members bring significant experience from the East Side Access Project, a multi-billion dollar multidisciplinary capital initiative for which significant portions of construction are being performed by Amtrak and Long Island Rail Road forces. Our proposed key staffs, (Robert Spero, Pete Gentle) have actual railroad experience, understand the issues involved with Facility Forces and are prepared to "hit the ground running". We understand that there is a delicate balance that needs to be maintained when increasing Facility Forces; they are permanent employees, covered by collective bargaining agreements, and not normally hired or accessed based on need.

There are two main areas where Facility Forces are used:

- Contractor Support – this included flag protection, power outages, track outages and indirect needs that occur during weekend type track outages (police, public affairs, vehicle maintenance and inspection, additional train operators.
- Direct Work – this includes work that is entirely performed by Facility Forces due to expertise, working under traffic or union agreements.

Adding staff while always an option, is a costly and lengthy process; for example it could take up to 18 months to qualify a signalman. Some items that need to be considered:

- Union Agreements
- FTA Regulations
- Attrition rates
- Length and availability of training programs

The key to successfully managing Facility Forces is planning, planning and more planning.

- Our team will meet with all responsible departments and stakeholders within PATH to establish needs and priorities of projects based on funding with critical projects that have full funding receiving the highest priority and working our way down the funding list with projects that have not been funded receiving the lowest priority.
- The team will develop detailed schedules laying out the current capital program, identifying where and when facility forces are needed.
- Working with PATH we will develop detailed man-loaded schedules, reviewed and revised as required (at least annually) setting out Facility Forces maintenance responsibilities, from which monthly look a-heads will be develop to meet the project milestones.
- These schedules will be combined to determine total Facility Force requirements, reported on monthly.
- The Facility Force requirements will be compared to availability to identify gaps.

At this point decisions have to be made.

- Can project or maintenance schedules be modified to balance availability vs. need?
- Should Facility Forces be increased? If so a hiring and training plan will be developed that supports the Facility Force requirement schedule; outsourcing of training is one means of increasing the number of people trained during a given time period.
- Could work normally performed by Facility Forces be performed by a contractor? Union agreements need to be researched, in some cases supplemental agreements need to be negotiated.
- Should additional equipment be purchased which can reduce the amount of Facility Forces needed for a particular task? A cost benefit analysis will be prepared and equipment lead time will be factored into the schedule

Schedules need to be developed at several levels:

- Master schedule identifying Facility Force requirements for the duration of the Capital Program
- Baseline Schedule identifying Facility Force requirements annually or as-required
- Updates of Schedule identifying Facility Force requirements monthly.
- Weekly meetings need to be held with all stakeholders to continually update schedules.

Facility Force Estimating Costs

Our team is fully experienced in providing Facility Force estimates.

There are the obvious direct costs and the hidden indirect costs.

- Direct costs include the manpower actually performing the service; these are usually governed by work rules, union agreements, FRA regulations (hours of service, RWWP, etc.)
- Indirect cost - these are the costs associated with providing a track outage, such as public affairs notifications, additional police, overtime for equipment maintainers due to equipment not being in its normal locations, additional train manipulations to have equipment staged in their proper locations in time for commission hours.

Construction Support Equipment

Normally, the use of specialized rail mounted equipment can improve construction or maintenance schedules and reduce the amount of Facility Forces needed. In most cases this equipment can be either rented or purchased. PATH presents a somewhat unique situation. Due to the close clearances throughout most of the system and the need to adhere to FRA regulations, most readily available construction support equipment cannot be used. To address this issue:

- Equipment needs per project should be identified on the Capital Project schedule
- Equipment needs should be identified on the maintenance schedule
- The two schedules should be overlaid to identify issues.

At this point decisions can be made:

- Can schedules be revised to eliminate conflicts?
- Should additional equipment be purchased? Cost benefit analysis is necessary.
- What type of equipment should be purchased? (self propelled should be investigated)

Our methodology will be to establish relationships with all key stakeholders; gather the necessary information to develop all schedules using P6. We will hold weekly meetings to monitor and continually revise schedules. We will provide alternative options with cost benefit analysis when needed. We will develop a hiring and training program for additional Facility Forces. We will develop equipment usage schedules and provide viable options for equipment purchases.

Task D: Logistical Support

Management of Planning Studies

It is expected that PATH will request the Team to provide Project management and oversight of planning studies that may become necessary to advance the current Capitol Program or that may be utilized to add, modify or remove Projects from the Capitol Program. The team is well prepared and has the staff resources necessary to quickly mobilize and provide this service as may be required. For example, Monica Barrow and Rock Miller are senior planners who bring experience scoping MTA-Family Capital Projects.

Investigative Analysis

The Team has carefully selected a pool of systems experts that are familiar with PATHs signaling and communications systems, traction power systems, and vehicles. Our pool if experts includes professionals familiar with the construction of new passenger station and rail yard and shop facilities, as well as some of the best rail operations analysts in the country. All of these resources will be available to support PATH should problems arise during implementation of their Capitol Program. Specific examples of these issues are discussed below.

Wheel-rail Interaction Studies: Wheel-Rail Interface is an important consideration in both vehicle design and track design. The wheel profile must be compatible with the rail section, and special track work components including switch points and frog flange-ways, frog guard rails and the restraining rail. Incompatible wheel rail interface can contribute to accelerated rail wear, accelerated wheel wear, damage to special track work, derailments (due to rail rollover and flange climb) and train resistance. Incompatible wheel-rail interface issues become a concern when new vehicles (and new wheel sets) are introduced to an existing system.

When introducing new vehicles on an existing system it may not be practical to replace existing in-track rail to assure a better wheel-rail interface. However, it may be practical to replace certain section of worn rail (such as curves) and/ or introduce a profile rail grinding program. A number of research studies have been carried out regarding mitigation of wheel-rail interface problems. Jim Palmer, our Principal -In-Charge, initiated an internal study when at SEPTA that increased wheel life fivefold and dramatically reduced rail wear. Organizations that have carried out previous studies include the Association of American Railroads (AAR), APTA (American Public Transportation Association) and Transit Cooperative Research Program (TCRP). If requested by PATH the Team will identify and investigate previous research studies and apply the findings of these studies to the special needs of the PATH system. The Team works closely with many other transit agencies and has established relationships with other transit professionals who also have experience with mitigating these interface issues. We will also reach out to these agencies and professionals and will quickly work to resolve any wheel-rail interface issues that may surface. As you will see J. Lehman brings years of equipment experience to the team to oversee this type of issue .

Rail Operations Analysis in Support of Construction: The work associated with replacement of the PATH Signaling system, new station construction, station platform modifications, as well as other Projects within the PATH Capitol Program will have a significant impact upon the operating characteristics of the railroad. In addition, as the new PATH signaling system is cut-over by section, and station and tunnel construction work progresses, one or more tracks may need to be taken out of service. This requires the development of an operating plan which will have a minimum impact to PATH service during system transition and commissioning. Any time a track is removed from service; there is a risk of creating an adverse impact on rail operations. Delays associated with reduction in operating speeds can quickly propagate throughout the entire PATH operation. The Team will evaluate the outages that are planned for each cutover and develop a recommended operating plan. We will assist PATH with any rail operations planning that may be necessary.

Led by Davis Dure SYSTRA has performed simulations for PATH that have modeled revenue and scheduled non-revenue train movements over routes routinely used in daily “normal” scheduled service only. In support of the need to simulate various track outage scenarios, SYSTRA will update its PATH model to ensure that movements against the normal current of traffic will be supported, as well as all crossover routes, including those that are not normally used by scheduled trains. This would include crossover routes at Exchange Place, Grove Street and Journal Square (between and including Portal and West Side), and the Pocket Track east of Harrison Yard. Additional updates to the model to reflect recent changes, such as the reduction in operating speed over certain diverging routes through Caisson 1 Interlocking, will also be made. SYSTRA will also update its rolling stock library to include non-revenue and work train equipment. When PATH restored service to the World Trade Center, The Hudson River tunnels and Exchange Place, Hill and SYSTRA worked with PATH, including the RAILSYM modeling, to develop the signal configuration that met industry standards and did not impact service quality.

PATH has expressed the desire to perform outage simulations in-house on a very short time frame. To support this effort, SYSTRA can develop an excel operating plan spreadsheet that

will allow PATH to add, subtract and reroute trains quickly and easily, with a quick export of the new operating plan into RAILSIM for simulation. SYSTRA will provide training on the use of the spreadsheet and associated macros, as well as refresher training on the use of the simulation tool itself. SYSTRA will be available at any hour to provide technical support to PATH as it defines the scenarios and perform the simulations .

Construction Staging: The Team has assembled a group of support experts that have considerable experience in the review and management of integrated railroad construction staging plans, (Robert Spero 28 years, Joe Black 30 years, Harry Morton 32 years, Joe Sais 42 years, Pete Gentle 32 years, Jim Palmer 34 years). The many Projects that are planned for Construction in PATH's Capitol Program include the need for expert support for signal and communications, traction power, facilities and station work, and track construction. The Capitol Program also needs vehicle experts to manage the delivery and testing of its new vehicles. Our experts are well versed in the phased implementation of new signaling system equipment. The Team's facilities experts are veterans of many passenger station, rail yard and tunnel projects. The Teams experts will work closely with PATH and their Contractors to develop optimal staging for the signal, track work and facilities work associated with PATH's Capitol Program. We understand fully the system integration issues associated with the staging of signal systems improvements on an existing operating system. We also understand that the construction of station platforms and canopies adjacent to operating transit lines demands careful planning and an emphasis on safety. Our Team will work with PATH and their Contractors during the implementation of each interim construction phase, to optimize cutovers and quickly provide for improvements in system reliability while minimizing risk of train delays. As it is essential to plan for construction staging and signal system cutover throughout the design process, our team will review the Contractor's construction staging plan to ensure that the most efficient transition from existing to new or modified facility and to the final signal system arrangement is achieved.

When reviewing proposed special track work replacement design, it is critical to ensure that the work is completed within the scheduled track outage window. Our experience with similar types of rehabilitation projects will prove critical in staging the proposed work within short construction windows and minimizing any potential impacts to revenue service. we will compare all construction staging plans to the Master Schedule to ensure compliance with the constraints for track outages. The availability of sufficient PATH force account support personnel will also be determined and coordinated. As many construction activities will be occurring simultaneously, work within more than one line segment often will need to occur simultaneously within the same construction outage window. The Team will meet regularly with PATH and their Contractor's to develop an integrated construction staging sequencing plan that enables PATH to optimize construction on any track outage windows that may become available. This is especially important as track outages generally mean that the riding public will be adversely affected. The Team will insure through careful planning with PATH and its Contractors any and all opportunities to provide for construction activities within the limits of the outage are taken advantage of when an outage is provided.

Construction Access and Lay-up Areas: Another issue that affects constructability includes access into the site, lay-up areas available to the contractor prior to the outage, and staging areas within the outage limits. These issues may affect the amount of progress the contractor is able to make within a given construction window. The Team will thoroughly review all current plans and Contracts to quickly identify those resources that have been made available to the Contractors and will quickly work to resolve deficiencies in this area by identifying recommended access points and staging areas that can be utilized by both the Contractor's and PATH's Force Account personnel.

Preparation of Specifications, Standards and Contract Language:

The Team will assist PATH as requested with the development and review of Contract Specifications, Contract boilerplate language, and Contract Special Provisions. The Team is well versed in the development of Contract language for design, procurement, installation and testing of systems and facilities and regularly develops Contracts for bid utilizing the Construction Specifications Institute (CSI) Masterformat numbering system.

Preparation of Presentations, and Informational Materials:

Effective management reporting requires that the Team maintain open and consistent lines of communication with PATH and their Contractors to obtain the most current and accurate project information. The Team will continuously monitor all projects to ensure conformance with project budgets, scopes, schedules, safety and quality. If considered advisable, members of the Team will visit construction sites to confirm that reports accurately reflect observable physical progress. A rolling report card that tracks key project performance criteria will be maintained and available to PATH's senior project personnel. This will enable PATH to stay current on numerous projects and their progress as it relates to cost, schedule and other important criteria.

The Team will prepare monthly executive-level Program Reports that will consist of an executive summary, followed by a listing of concerns and remedial actions, top 10 risks, project-by-project milestones and budget analyses and contingency levels.

Once a month, the Team will prepare and issue an updated Program Schedule Report. This report will include all updated project schedules. The Team, will also issue copies of the working master schedule to Program staff as requested and as major changes occur.

It is acknowledged that from time to time, PATH may call upon the Team to prepare special management reports and Presentations. Our extensive experience in monitoring and managing budgets, schedules, scopes, project safety and quality assurance, as well as procurement, grant and contract compliance issues, will enable such reports and presentations to be prepared in a comprehensive and timely manner to facilitate decision-making.

Provision of Field Personnel:

The Team has selected a group of railroad and transit agency professionals for this Project that has an in-depth knowledge of the specialized field of rail signal systems, traction power systems, track and facilities engineering and construction. Our group of professionals has many years of similar hands-on project experience. Most of these professionals held positions with operating Railroads and Transit Agencies, system vendors, and other consulting firms. These excellent credentials coupled with our comprehensive understanding of the construction methods required for the PATH Capitol Program enables the Team to provide cost effective solutions for field support. The teams Field Coordinator Harry Morton and Cost Engineer C. Bossard bring years of railroad experience to this project.

Employee in Charge: The Employee in Charge (EIC) is the employee at the work site responsible for ensuring that construction operations are conducted in a safe manner. His/her responsibilities include establishment and control of the work zone as well as the provision and documentation of a safety briefing. He/she is also responsible to make sure that everyone working at the site has up to date roadway worker track safety certifications. The Team will provide this service to PATH as may be necessary to supplement their force account personnel.

Review of Contractor Test and Cut-over Plans: There is a three part approach to ensuring that signaling system modifications are installed in a safe manner. The first part involves the proper planning and design of the vital safety circuits by a qualified signal circuit designer or group of designers. The second part of the equation involves the checking of the signaling system design by a qualified senior level signal engineer, skilled in the aspects of signaling systems and their safety check. The third, and most safety critical part of the equation involves the testing of the signal system improvements in a pre-prescribed manner to ensure that the signal system modifications perform as intended and are designed to fail in a safe manner. The signal system testing should cause each system and subsystem to be sequenced through its required operation and should include the imposition of simulated conditions to prove that the installation complies with all PATH and FRA testing requirements.

The Teams field signaling experts will review all Contractor completed pretest and in-service test plans to ensure that all necessary tests are planned, the test results will be properly documented, adequate Contractor and Force Account resources are available to support the testing, and adequate time is allotted to properly perform the tests. Testing methods and procedures will be compared with industry standard practices and a report of our findings will be created that will include recommendations for improvements and possible streamlining of signaling test procedures.

As cutover of the new signaling system will take place during planned track outages, and service must resume at the end of the outage, the need for a ready supply of signal maintainers, inspectors and test engineers as well as the Contractor's design representatives is a necessity. To capitalize on the testing time available, we recommend that all pre-testing of signaling devices be performed in advance. We will ensure that there are adequate fall-back plans in place to allow unimpeded operations should the cutover fall behind schedule.

Project Manager Robert Spero has developed more then 6 major cutover plans for Amtrak and the LIRR when with East Side Access. The cutovers varied from signal cutovers, switch cutovers to new track and switch installation.

FRA Required Testing Support: Although PATH operates a heavy rail rapid transit service, it falls under the jurisdiction of the Federal Railroad Administration and as such carries the status of a Railroad. While PATH once did share trackage with the Pennsylvania Railroad, joint running and all interlocking connections to the former rail lines have been severed, except for one diamond crossing on a siding near Hudson Tower. Due to its status as a federally regulated railroad, PATH must comply with the Code of Federal Regulations Title 49, Part 236, Rules, Standards, And Instructions Governing The Installation, Inspection, Maintenance, And Repair Of Signal And Train Control Systems, Devices And Appliances.

If desired, the Teams Signaling experts will support PATH by providing on site assistance during the in-service testing of all signal system elements. Our employees will observe and assist with the in-service test to ensure that the required testing is performed properly. If any circuit or wiring changes become necessary during the tests, we will review these changes and help with the determination of the proper level of regression testing that is required.

Project Manager Robert Spero has experience with the FRA. He authored the Amtrak/Long Island Rail Road Harold Interlocking Improvement Paper, signed by the Chief Engineers of Amtrak and the LIRR for FRA approval.

Factory Testing Assistance: The Team will support PATH if desired by providing on site assistance during the factory testing of all pre-wired instrument locations and pre-wired racks to ensure that the required factory tests are performed properly and to review any circuit and wiring changes that may become necessary during the tests.

Construction Inspection: If requested, the Team will make periodic inspections of the Contractors work so as to ascertain the progress and quality of the work. Our Inspectors and Engineers are familiar with the construction of transit facilities adjacent to and on live tracks. Our inspections will ensure that the work is not only constructed in a safe and timely manner, but also compliance with the installation requirements of the appropriate Contract. Inspection reports will be generated each time an inspector is in the field, detailing the date, time, and weather conditions, the work that was performed, the Contractors employees at the site, what equipment was in use, and any problems or issues of non-conformance. Construction photographs will also be taken of the work and submitted to PATH with the inspection reports on a weekly basis .

Semi Final and Final Punch List Inspection: The Team will also participate in semi-final and final punch list inspections and will report on its findings. The Team will make recommendations for the completion of the punch list items and will track progress of all open issues.

Management Approach

"I would like to express my extreme pleasure and satisfaction with the effort that Hill International has expended on the Airport High Speed Line, along with my gratitude for the most professional and efficient manner with which you personally conducted our mutual concerns."

Nicholas Bubernak
Project Manager
Philadelphia International Airport High Speed Line

Management Approach

The core of a successful program is effective management. T**he PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** has successfully worked together in the past. After the unfortunate events of 9/11, SYSTRA, Hill International, and Gannett Fleming all worked hand-in-hand as part of the team that successfully restored PATH service to lower Manhattan ahead of schedule. Currently SYSTRA and Gannett Fleming are working together on the $7-Billion East Side Access Project. PATH is a railroad; as such its core business is safely transporting its customers from point A to point B, on time. As a railroad there are unique challenges in meshing a capital program with ongoing maintenance and operations. These types of challenges are easily understood by our team. We have assembled key staff consisting of former railroaders and people with strong railroad experience who have faced and solved these types of challenges in the past. We have provided resumes for experts who are available to support any and all tasks that arise. We have the necessary people to support all situations at any time. Our selected staff will provide PATH with a seamless approach from project inception to completion. We have established processes to ensure all projects/tasks are coordinated and implemented with consistency and success.

The SHG Team also brings the Railsim Simulation 8.1 Package for use during the life of the Project. Railsim is an excellent tool to provide simulation data for scheduling new Path Service, as well as simulating construction scenarios for use by the team to develop critical track outages and crew resources needs.

Implementation of a clearly defined and organized Management Plan will enable the SHG Team to complete work on time, within budget, and in conformance with PATH's criteria and direction. Coordination and communication among the team personnel will be maintained by the Project Manager, Mr. Robert Spero, through use of project management controls and procedures. Communication is a central element of a successful project. Throughout the course of the project, continued interaction with the PATH will be maintained through regularly scheduled meetings, progress reports, and consultation to review the progress of the project.

Management of Subconsultants

Our team's project manager will be responsible for assigning subconsultants and managing the firms' personnel during the project. All submissions will be made through our project manager. Our project manager will attend meetings in which subconsultants require information from the PATH. Subconsultants will be required by contract to report their progress on all project work at least once a month in addition to other meetings, presentations, and/or correspondence. Our team also recognizes our responsibility to subconsultants and our project manager will respond promptly to the subconsultants' concerns.

Quality Assurance

Our Team will be operating under an ISO 2000 Quality System. Gannett Fleming is ISO 9000 certified, and the Quality Assurance for this project will be handled under their system. A project-specific Quality Plan will be developed upon NTP. Sub consultant quality procedures will be reviewed for adequacy. Should a sub consultant's quality processes be found to be insufficient they will need to adhere to the requirements of Project Quality Plan.

Project Manual

The cornerstone of the teams Project Management Plan is the development and maintenance of a project-specific Project Manual. Quality project management requires that all essential information regarding a project be documented and be easily accessible to the Project Team and PATH. The Project Manager will assemble the project-specific administrative procedures, technical criteria, project reference information, and all guidance needed by the project team into a Project Manual. This Manual will serve as a basic reference for all SHG team members.

- ***Project Team Organization:*** A complete listing of all project participants and key personnel/contacts, detailing the company name, address, telephone and fax numbers, individual names, and email address is developed. The Project Organization Chart will be included.
- ***Scope of Work:*** The approved, conformed Scope of Work, as presented in the Contract (proposal and RFP scope) is included in the manual.
- ***Work Breakdown Structure (WBS):*** The WBS is a listing of all of the major components of a project, broken down on a task-by-task basis, showing the specific person responsible for each task. The WBS will correspond to the Project Schedule and Project Budget.
- ***Project Schedule:*** The Project Schedule will be maintained throughout the course of the project, providing a concise view of the project progress. The Team has been utilizing Primavera and Microsoft Projects software for maintaining project schedules for a number of years.
- ***Project Controls:*** The Team utilizes software tools for budget, schedule, and document controls. The document project controls center around initializing a project-specific database for controlling all pertinent documents and information. The project filing (electronic and hardcopy) is synchronized with the database and our procedures ensure that all documents to and from the Team and the PATH, as well as internal among Team members, are controlled.
- ***Accounting Information and Procedures:*** Internal project accounting codes and requirements for invoicing are defined. It describes the procedures for information provided to accounting that is required to have proper tracking and invoicing.

Security Management Procedures

The SHG Team is compliant with the Security Requirements and Procedures as set forth by the Port Authority / PATH. Our Project Manual provides requirements for establishing, managing, and monitoring the requirements for handling of Confidential and Privilege (C&P) information. The Teams established security policy describes the strictures for handling C&P materials, including storage, handling, tracking, and usage of hardcopy and electronic media.

Included in the Security Requirements and Procedures is the management of authorized access to various PATH properties. All project staff members will complete the Secure Worker Access Consortium (SWAC) background process and followed up with site specific ID's.

Subconsultants

Subconsultants

In preparing this proposal for the Port Authority, the **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** tri-venture has carefully selected a team of our most experienced and seasoned professionals. Our team will be supported by highly-qualified and experienced personnel from subconsultant firms. SHG has engaged the services of specialized subconsultants with extensive experience in this type of work. We have identified the following subconsultants as part of our team for tasks under the on-call contract and resumes are included in Section E.

Consultant Name	Services
Interfleet Technology	Railcar Specialist
Garg Engineering (MBE)	Systems Engineering, Construction Inspections and CM Services
Longi Engineering (MBE)	Design Reviews and Track Specialist
HAKS Engineering (MBE)	Design Reviews and Inspections
Keville Engineering (WBE)	Cost Estimating and Scheduling
Envision Consultants, Ltd. (WBE/DBE)	Scheduling
Interactive Elements, Inc. (WBE)	Planning and Vehicle and Safety Certification

Interfleet Technology

Interfleet Technology, a leading international rail vehicle and systems engineering consulting firm has been providing successful and innovative engineering solutions and strategic consulting support to rail transit clients for more than 30 years. Drawing upon the skills and knowledge of over 600 highly experienced rail professionals, Interfleet offers a complete and independent consultancy service to transit agencies/railway operators (both passenger and freight), maintainers, manufacturers, asset owners and other major organizations worldwide. Interfleet presently has over two dozen offices strategically located in North America and around the globe.

Assignments delivered span every type of rail rolling stock including rapid transit systems, light rail, streetcars, electric multiple units (EMUs), diesel multiple units (DMUs), electric and diesel locomotives, loco hauled coaches (both multi-level and single deck), and on-track maintenance-of-way equipment. In addition, Interfleet has experience working on monorail/people movers, maglev, high speed rail and Personal Rapid Transit (PRT) transportation systems. Interfleet's rail rolling stock assignment experience covers every aspect of the full vehicle lifecycle including industrial design, design, engineering, specification development, design review, procurement management and support, inspection, quality assurance and control, testing, commissioning, approvals, maintenance management and support, accident investigation, repair and overhaul

specification and oversight, operations and maintenance simulation and analysis, retirement and replacement strategy and new technology development.

Interfleet has, and continues to, successfully delivered assignments for clients both in North America and internationally. Through its North American operation, which has over 25 years of history, Interfleet has successfully delivered projects/assignments for clients that include New Jersey Transit, New York City Transit, MTA (New York), Amtrak, Capital Metropolitan Transportation Authority, GO Transit, Transportation Research Board, Fluor, Jacobs, Sociéte de Transport de Montréal, Agence métropolitaine de transport, Toronto Transit Commission, Transmax, Vermont and North Carolina DOT, Caltrans, Lockwood Andrews and Newnam, URS, Wabtec Corporation, GE Transportation, Angel Trains Inc., Macquarie Bank, MARTA, Metro North Railraod, Herzog Transit Services, Wisconsin DOT, Federal Railroad Administration (FRA), American Public Transportation Association (APTA), HNTB Corporation, AECOM and Alaska Railroad.

Internationally, Interfleet's clients include London Underground Ltd, Transport Initiatives Edinburgh, Eurostar, Transport For London (UK) World Bank, European Bank for Reconstruction and Development, Land Transport Authority (Singapore), MTRC and KCRC (Hong Kong), Swedish State Railways (SJ) (Sweden), Virgin Trains (UK), Spoornet (South Africa), RailCorp and Queensland Rail (Australia), Deutsch Bahn (Germany) Sociéte National de Chemins de Fer (France), Pacific National (Australia), Railion (Denmark), SCOMI Engineering (Malaysia) and Dehli Metro Rail Corporation (India).

Garg Engineering

Founded in 1990, Garg Consulting Services (Garg) is a multi-disciplinary engineering firm headquartered in Rocky Hill, CT with an office in Cherry Hill, NJ. Garg currently employs over 40 employees, mainly working on federal and state projects in Connecticut, New York, New Jersey, and Pennsylvania. Garg is DBE/MBE/SBE certified with many agencies, particularly throughout the Northeast.

Although Garg has experience in a wide variety of disciplines in the transportation industry, its specialty is rail and transit engineering, including power traction supply, catenary, signal and communications, track, and rolling stock engineering. Our staff is comprised of experts with over 20 years of international rail and transit engineering experience. It is Garg's reputation as an experienced and qualified rail engineering firm which has led to Garg's involvement in high profile rail projects throughout the United States.

Other areas of experience and expertise include bridge/structural engineering, highway/roadway design, environmental engineering, construction engineering and inspections, and survey.

Longi Engineering

Longi Engineering (LE) established in 1997, is comprised of two core divisions, Engineering and Information Technology. Their engineering division provides planning, design, program management, construction management/inspection, and condition inspection services. Both of their divisions provide services to governmental agencies, prime consultants, construction contractors, and corporations. Longi Engineering is MBE/DBE certified by all major governmental agencies in the Northeast United States, including Port Authority of NY/NJ.

Services

Planning (Railroads & Rail Transit)

- Capital Improvements Program
- Condition and Biennial Inspection
- Technical & Cost Feasibility Studies

Design (Railroads & Rail Transit)

- Bridges/ Viaducts
- Stations/Terminals
- Tunnels
- Storage & Intermodal Yards
- Shops & Buildings
- Bus Depots
- Geotechnical
- Structural: Reinforcement/Prestressed Concrete, and Structural Steel
- Track-Conventional, Special Trackwork, Direct Fixation: Concrete Ties, Bridges/Viaducts and Slab Track

Construction (Roads, Bridges, Buildings, Airports, Rail Transit, Railroads, etc)

- Construction Management, Resident Engineering, and Inspection

Construction Support

- Design, Structural Calculations, Working Drawings: Temporary Structures, Cofferdams, Excavation Support Systems, Underpinning, and Misc. Structures.

Staff Experience

The key staff members have the following background and experience:

M.S. (Moh) Longi, PD, PE Principal-In-Charge acts as the Project Manager/Chief Engineer directly responsible to the client, for manpower resources, project quality, contractual relations, and technical work and overview. Moh Longi has 40+ years of international and domestic experience. Mr. Longi's diversified experience includes working for contractors, consultants, and 25+ years with Long Island Rail Road, New York, in various capacities, which included Manager Design, Manager Maintenance (B&B), Manager Inspection, and as Project Manager managing various capital program projects.

Wayne Caggiano, PE, Project Engineer, has more than 38+ years of diversified experience in design and construction management of projects related to railroads, rail transit, highways, bridges, and buildings, with the following agencies: NYSDOT, NYCDOT, NYCHPD, NYCEDC, NYCDDC, NYSTA, PA-NY/NJ, CDOT, MTANYCT, TBTA, MNR and LIRR. Roles included Project Engineer, Resident Engineer, Bridge Inspection Team Leader, Design Engineer, and Construction Inspector. Wayne's experience includes 28+ years tenure with Long Island Rail Road, New York, where he also worked on capital program projects.

Paul Cohen, M.S., Senior Track Engineer, has 31+ years experience in the rail industry, including AMTRAK, SEPTA and 22 year with Port Authority NY/NJ. Paul has expert knowledge of special trackwork designs and practices of AREMA, Rail Transit, Railroads and European rail systems.

HAKS Engineering

HAKS is a multi-disciplined consulting engineering, construction management, architectural and surveying firm offering a comprehensive range of professional services for work related to bridges, highways, railroads, transit systems, buildings and facilities, among others. Their services include construction management, supervision and inspection, constructability assessment, design, surveying, scheduling, cost control, material testing, community liaison and more.

HAKS is headquartered in New York City. They have offices in upstate New York, New Jersey, Connecticut, Pennsylvania and Maryland. The HAKS Material Testing Laboratory is located in Long Island City. They serve clients in local, city, regional, state and federal agencies, and in the private sector.

The firm was established in 1991 and has grown steadily from the start to where they are now - a leading, mid-sized consultant in the New York Metropolitan area. They currently employ some 400 staff members, 200 of whom are licensed professionals and certified technicians engaged in construction management, supervision and inspection.

HAKS has worked on 26 Port Authority contracts over the past 11 years. They range from program and project control, construction management, inspection and condition surveys, to structural design, surveying, bridge inspection, CAD services and more.

Their first prime contracts for on-call/call-in work for the Authority were in 2001, and they included separate contracts for structural engineering design and construction management. They have worked on three separate contracts for on-call construction management services that run continuously from 2001 through 2009. They provided expert professional topographic and boundary surveying services on a call-in basis from 2004 through 2006. At present they are providing on-call, expert professional facility condition survey services for building and bridge facilities for 2009 through 2011.

The call-in construction management contract that they handled for the years 2004 through 2006 required HAKS to provide management and inspection services for New York airport and port commerce projects. They are currently part of a team providing expert professional airport consulting services during 2008 through 2012.

Among the Port Authority projects other than call-in/on call that they have been associated with as a subconsultant are consultant management services for the World Trade Center site and Transportation Hub, inspection services for seismic retrofit of the New York approach structures of the George Washington Bridge and construction management services for the PATH downtown restoration project.

Keville Engineering

Keville Enterprises, Inc. (KEI) is a 130+ person multi-disciplined Construction Management & Inspection firm based in Boston, Massachusetts, with offices in MA, CT, NY, VA, MD, FL and TX . KEI specializes in providing owner's representative services on public projects. They are certified as a Woman-owned Business Enterprise (WBE/DBE) by over 30 agencies and authorities including the New York and New Jersey Port Authority as a WBE Certificate PA-20100. They have provided our services on public projects totaling more than $16 billion in value. They pride themselves on their commitment to client satisfaction which is engrained throughout all levels of our organization. They have successfully served over 150 different clients, many of whom have requested services on a repeat basis, which demonstrates their commitment to client satisfaction. KEI is not a design firm with construction inspection as a minor component of a larger engineering practice. They are solely a construction management and inspection firm, with all areas of their business focused on and dedicated to construction management and inspection.

As a full service Construction Management and Inspection firm, cost estimating and scheduling are an integral part of the services they provide. Their Construction Management and Inspection experience and expertise give them the added dimension of thoroughly understanding the constructability aspects of projects. Their Cost Estimators and Schedulers have worked for construction companies and have intimate knowledge of the construction process. They apply this

construction knowledge and experience when developing cost estimates and schedules, which gives them the advantage of producing cost estimates and schedules that are realistic and based on a constructable approach. They have provided cost estimating and scheduling for Architectural and Engineering firms on numerous projects during design, and they are well-versed in developing design schedules. Their Cost Estimators and Schedulers are also experienced in analyzing, estimating, and negotiating claims and change orders. This experience makes them sensitive to potential claims and change orders when developing schedules and estimates. They have also provided Claims Avoidance Reviews during design as a specific service for public owners on construction contracts as large as $400,000,000. They routinely provide their services on an on-call, as-needed basis, and take great pride in our responsiveness on these types of assignments. They have provided our services on numerous state and federal projects for a variety of state and federal agencies. No job is too big or too small for KEI. They remain completely flexible in their approach and are always fully committed to serving as a solid, dependable extension of their clients' organizations.

Cost Estimating

Keville Enterprises, Inc. routinely provides capital cost estimating services on public projects. They have full-time dedicated cost estimators on staff who have decades of experience in providing conceptual cost estimating, capital cost estimating during design, bid estimating for construction contractors, and claims/change order estimating for both owners and contractors. These individuals have cost estimating experience in the 16 Divisions of the CSI cost codes. Accordingly, Keville Enterprises has a wide pool of experience and knowledge in both capital cost estimating and claims/change order estimating that can be used as different estimating needs arise, and their people are always familiar with current industry costs. Their people are experienced in using a variety of cost estimating software systems including HCSS, Timberline, MC2, WinEstimator, XACTIMATE, and common spreadsheet applications such as Excel and Lotus. They are very flexible in the software system we use and focus on the owner's preferred system.

Scheduling

KEI's Schedule Analysts can build design, construction, and program-level schedules using the detailed work breakdown structure, crews, and production rates that are developed during their cost estimating effort. All of the individual activities within these schedules can be specially coded to allow the development of status reports that are tailored to provide owners with the specific schedule information they may need. They can also cost-load each activity within this schedule which allows for the development of cost curves. These curves can be used to forecast cash flow needs throughout the life of the project or program. They can also resource-load this schedule to allow for the development of manpower curves if so desired. Construction schedules can be expanded into program level schedules by adding activities for the planning, permitting, design, fit-up, and start-up of the project. They can build a schedule so that it is a useful management tool that is tailored to the owner's management and reporting needs. They can update program level schedules at whatever frequency the owner may desire in order to maintain an accurate assessment of schedule, cost, and resource status.

During construction, their Schedule Analysts review the General Contractor's construction schedules throughout the course of the project. The General Contractor's initial schedule submittal is thoroughly reviewed in order to ensure that it is feasible and that it provides for project completion in accordance with the contract requirements. Initial schedule review checklists that are tailored to the particular aspects of each individual construction contract are used as guidelines in performing initial schedule reviews in order to ensure that all aspects and components of the schedule are thoroughly analyzed. In general, this review analyzes technical compliance with the contract schedule specifications, milestones and contract completion, the schedule critical path and near critical paths, scope completeness, sequencing of work and logic ties, costs, resources, and float management. Since this initial schedule serves as the baseline schedule for any delay claims or time extensions, all questionable logic ties, sequencing, durations, critical paths, near critical paths, and suppressed float are identified and documented in written correspondence to the General Contractor.

Their Schedule Analysts also review the General Contractor's monthly schedule updates in conjunction with its requests for payment. These update reviews are performed to ensure that the General Contractor is progressing the work in accordance with all contract requirements, and to ensure that the General Contractor's updated schedule reflects the actual status of the work.

They also perform a two week schedule look-ahead at the periodic job progress meetings, and independent schedule look-aheads to ensure that all planning, coordination, materials, shop drawings, test plans, and submittals are in place in time enough to avoid construction delays, at intervals dictated by the status of each individual construction contract. The General Contractor's Payment Schedule and Schedule of Values are also reviewed in conjunction with the General Contractor's construction schedule to ensure that they are reasonable and consistent with the construction schedule.

Their Schedule Analysts also review and analyze the schedule effects of all change orders during the course of the work. Their Schedule Analysts use Primavera P3, Primavera Sure Track, and Microsoft Project scheduling software.

Envision Consultants, Ltd.

Envision Consultants, Ltd. is an established woman owned business with over fourteen years of experience. Their commitment to client satisfaction has resulted in the successful completion of diversified construction projects, from highways, transit systems and educational facilities throughout the United States. Their corporate philosophy is to focus on clients' needs and objectives with individualized and unique project support services, so you can move your projects forward with confidence.

"On time and on budget." When all is said and done, these five words are the ultimate measure of your project's success. Effective planning is the key to achieving your cost and scheduling objectives. Envision has worked with companies all over the world to develop effective engineering

and construction control systems. Let Envision create a project management system for you, allowing you to track progress and resources, document change orders and avoid the loss of revenue resulting from engineering and construction claims.

Interactive Elements, Inc.

Interactive Elements is a transportation consulting firm specializing in public transit operations and infrastructure. The firm works with operators, consultants, construction managers, contractors, and government agencies to improve safety and security, on-time performance, service quality, and cost-effectiveness of transit operations. The firm provides a comprehensive array of services, including operations and maintenance liaison; capital program planning and support; customer relations/public affairs/community outreach; safety and security; systems assurance; program and construction management; and information systems and services.

The company employs a professional staff with hands-on experience in operations and maintenance of transit systems and facilities, and in the successful completion of multi-million dollar capital improvement programs throughout the nation. The company's founding principals were part of the management team that created MTA Metro-North Railroad in 1983 from the remnants of the Conrail rail network.

Interactive Elements is a certified woman-owned and disadvantaged business enterprise as well as a U.S. Small Business Administration 8(a) firm. In 1992, the company received the FTA Administrator's Women's Business Enterprise Award for its work as prime contractor on the largest Section 22 Safety Investigation ever performed on commuter railroads.

M/WBE Participation

Hill's project management and contracts experience from previous large projects was a valuable resource in anticipating and resolving several key issues. Hill exhibited enthusiasm, patience and tact while interacting with SEPTA's engineering and management staff."

Joseph D. Brattelli
Chief Automotive Officer, SEPTA Bus Procurement Project
SEPTA

M/WBE Participation

The **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** team is commitment to meeting the Port Authority's set-aside goals of no less than 12% participation by qualified/certified MBE firms and 5% to qualified/certified WBEs.

SHG is joined by the following MBE and WBE consultant firms:

Consultant Name	Services
Garg Engineering (MBE)	Systems Engineering, Construction Inspections and CM Services
Longi Engineering (MBE)	Design Reviews and Track Specialist
HAKS Engineering (MBE)	Design Reviews and Inspections
Keville Engineering (WBE)	Cost Estimating and Scheduling
Envision Consultants, Ltd. (WBE/DBE)	Scheduling
Interactive Elements, Inc. (WBE)	Planning and Vehicle and Safety Certification

Highly experienced at M/WBE Inclusion, the SHG Team will design, implement, and manage an effective M/WBE program based on five key components:

- Outreach
- Certification/Verification
- Procurement
- Monitoring
- Technical Assistance

The SHG Team, by assessing available minority and female firms via its outreach activities, stringently verifying M/WBE qualifications, overseeing bid and award preparation, constantly monitoring for compliance, and by assisting M/WBEs with technical and bonding assistance initiative, includes the best qualified M/WBEs and does as much as possible to ensure their success. Additionally, our team will closely monitor M/WBE job performance, general contractor payments, and if necessary, take part in dispute resolution. We strive to play a vital role in the M/WBE program diversity objectives by delivering diversity, outreach, workforce development, economic development programs, and providing technical assistance to the small, female, and minority business community.

Understanding the Issues

Diversity is a Primary Strategic Component of the Project. The Project M/WBE team will:

- Continue to support the M/WBE "business case"
- Set and accomplish Diversity milestones
- Provide Monthly Diversity Dashboards, Scorecards and Summary Reports
- Report and Monitor M/WBE participation field operations
- Hold aggressive outreaching sessions to assist in the participation of female and minority-owned businesses seeking to do business with the airport.
- Continue to focus on the primary diversity strategic component of the Port Authority
- Manage and Support the Port Authority Office of Contract Compliance to achieve significant M/WBE participation.
- Manage the M/WBE initiatives during the element bid packaging strategies pertaining to the Port Authority's program.
- Focus on the major elements with the estimated construction cash flow.

Certification letters and designations for our M/WBE firms are on the following pages.

FEB-19-2004 13:17 GARG CONSULTING 609 429 0455 P.02/02

THE PORT AUTHORITY OF NY & NJ

Jack G. Sinagra
Chairman

Joseph J. Seymour
Executive Director

Certified

by

Business & Job Opportunity

Garg Consulting Services, Inc.

Certificate PA-612

This certificate acknowledges that the above named firm is certified as a **Minority Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a Verification Statement attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business, which affects ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Wilfred Chabrier
General Manager
Certified: April 5, 2002

Rosemary Jenkins-Varela
Senior Policy Analyst
Scheduled Re-evaluation: April 4, 2007

Form 6/10/93 RJV

TOTAL P.02

GARG CONSULTING SERVICES, INC.

ENGINEERS • CONSULTANTS • CONSTRUCTION MANAGERS

September 1, 2009

The Port Authority of NY & NJ
Office of Business & Job Opportunity - Certification Unit
233 Park Avenue South, 4th floor
New York, NY 10003

Re: Recertification – Minority Business Enterprise for Garg Consulting Services, Inc.

Dear Manager;

Please find enclosed our application for re-certification as a Minority Business Enterprise (MBE) by the Port Authority of NY & NJ, duly signed.

If you should have any questions, please contact me at (856)429-8010 or our President /CEO Eugene Chuang at (860)563-0582.

Very truly yours,

Madan L. Gambhir
Operations Manager

New Jersey Office: 401 Route 70 East, Suite 211, Cherry Hill, NJ 08034 Tel: (856) 429-8010 Fax: (856) 429-0453
Connecticut Office: 2096A Silas Deane Highway, Rocky Hill, CT 06067 Tel: (860) 563-0582 Fax: (860) 563-0825
NJ E-mail: garg-nj@gargengineering.com www.gargengineering.com **CT E-mail:** garg-ct@gargengineering.com

THE PORT AUTHORITY OF NY & NJ

June 16, 2006

Mr. Mohammad S. Longi
President
Longi Engineering, P.C.
262 West 38th Street, Suite 502
New York, NY 10018

RE: MBE RECERTIFICATION
TYPE: ARCHITECTURAL & ENGINEERING

Dear Mr. Longi:

This is to acknowledge receipt of the recertification Application which your firm submitted. **Longi Engineering, P.C.** continues to be on our roster of eligible **Minority Business Enterprises (MBEs)** for contracts with The Port Authority of New York and New Jersey.

Please be advised that the Port Authority's Small Business Programs Unit periodically reviews all certifications and reserves the right to decertify any previously certified firm that no longer meets the Port Authority's guidelines for **MBE** designation.

Additionally, any **MBE** whose business incurs changes in any substantial manner must notify the Small Business Programs Unit within thirty days of that change. These changes include, but are not limited to, a change of officers, directors, location, corporate name, or financial condition. Failure to advise of these changes may result in our removing the firm from our roster of eligible **MBEs**. If you have any questions regarding your certification, please feel free to contact Aurea Molina at (212) 435-7804.

Sincerely,

Lash Green
General Manager
Small Business Programs

LG/AM/ps

Enclosures: Certificate
Registration Notice

233 Park Avenue South
New York, NY 10003
T: 212 435 7000

THE PORT AUTHORITY OF NY & NJ

September 1, 2009

Husam Ahmad
HAKS Engineers, Architects, Land Surveyors, P. C.
40 Wall Street, 11th Floor
New York, New York 10005

Dear Mr. Ahmad,

Thank you for submitting your re-certification application to The Port Authority of New York and New Jersey to continue your certification and remain eligible to participate in our **Minority Business Enterprise (MBE)** programs for the opportunity to bid on Port Authority contracts. At this present time you are still certified with our agency and we have received your re-certification application and supporting documents. Your file is currently under review and if there are any other documents or information that we deem to be necessary, we will request it as soon as possible.

If you or anyone else have any questions concerning the process or any other details regarding your application, please feel free to contact me at (212) 435-7807 or rlewis@panynj.gov. Thank you in advance for your cooperation.

Sincerely,

Romaine A. Lewis
Business Analyst, Certification Unit
Office of Business & Job Opportunity

233 Park Avenue South, Fourth Floor
New York, NY 10003
(212) 435-7000
(973) 961-6600

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Joseph J. Seymour
Executive Director

Certified

by

Business and Job Opportunity

HAKS Engineers, P.C.

Certificate PA-941

This certificate acknowledges that the above named firm is certified as a **Minority Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a Verification Statement attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Wilfred Chabrier
General Manager
Certified: October 30, 2003

Rosemary Jenkins-Varela
Manager, Operational Support & Compliance
Scheduled Re-evaluation: October 29, 2008

Form: 6/10/93 RAM

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Anthony E. Shorris
Executive Director

Certified

by

Office of Business & Job Opportunity

Keville Enterprises, Inc.

Certificate PA-20100

This certificate acknowledges that the above named firm is certified as a **Woman-owned Business Enterprise**. This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: January 4, 2008

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: January 4, 2013

Form: 6/10/93

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Kenneth J. Ringler, Jr.
Executive Director

Certified

by

Business and Job Opportunity

Envision Consultants, Ltd.

Certificate PA-18628

This certificate acknowledges that the above named firm is certified as a **Woman-owned Business Enterprise**. This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a Verification Statement attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Lash Green
General Manager
Certified: February 8, 2005

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: February 8, 2010

Form 6/10/93

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Kenneth J. Ringler, Jr.
Executive Director

Certified

by

Business and Job Opportunity

Envision Consultants, Ltd.

Certificate PA-18628

This certificate acknowledges that the above named firm is certified as a **Small Business Enterprise (Commodity Program).** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a Verification Statement attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Lash Green
General Manager
Certified: February 8, 2005

Rosemary Varela
Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: February 8, 2010

Form 6/10/93

THE PORT AUTHORITY OF NY & NJ

September 21, 2007

Ms. Susan Gilbert
President
Interactive Elements, Inc.
New York, NY 10165

RE: WBE RECERTIFICATION
TYPE: COMPUTER SOFTWARE CONSULTING

Dear Ms. Gilbert:

This is to acknowledge receipt of the recertification Application which your firm submitted. **Interactive Elements, Inc.** continues to be on our roster of eligible **Women-owned Business Enterprise (WBEs)** for contracts with The Port Authority of New York and New Jersey.

Please be advised that the Port Authority's Office of Business & Job Opportunity periodically reviews all certifications and reserves the right to decertify any previously certified firm that no longer meets the Port Authority's guidelines for **WBE** designation.

Additionally, any **WBE** whose business incurs changes in any substantial manner must notify the Office of Business & Job Opportunity within thirty days of that change. These changes include, but are not limited to, a change of officers, directors, location, corporate name, or financial condition. Failure to advise of these changes may result in our removing the firm from our roster of eligible **WBEs**. If you have any questions regarding your certification, please feel free to contact Rosemary Jenkins-Varela at (212) 435-7806.

Sincerely,

Lash Green
Director
Office of Business & Job Opportunity

LG/RJV

Enclosures: Certificate
Registration Notice

233 Park Avenue South
New York, NY 10003

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Anthony E. Shorris
Executive Director

Certified

by

Office of Business & Job Opportunity

Interactive Elements, Inc.

Certificate PA-681

This certificate acknowledges that the above named firm is certified as a **Woman-owned Business Enterprise**. This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: September 21, 2007

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: September 20, 2012

Form: 6/10/93

Empire State Development

September 2, 2008

File ID #:2484

SUSAN GILBERT
INTERACTIVE ELEMENTS INC
60 EAST 42ND STREET SUITE 2035
NEW YORK, NY 10165

Dear SUSAN GILBERT:

On behalf of New York State Department of Economic Development, Division of Minority and Women's Business Development (DMWBD) has completed its review of your verification form for State Certification as a Woman-Owned Business Enterprise and has determined that your firm continues to meet eligibility requirements for certification, pursuant to Executive Law, Article 15-A..

We are pleased to inform you that the firm of INTERACTIVE ELEMENTS INC will continue to be granted status as a Woman-Owned Business Enterprise. Your business will continue to be listed in the State's Directory of Certified Businesses. Certification status is not intended to imply that the State of New York guarantees your company's capability to perform on state contracts, nor does it imply that your company is guaranteed any State business.

Be advised that your certification expires 3 years from the date of this letter or unless you are contacted by this Office for verification or recertification. Please remember that any changes in your company that affect ownership, managerial and/or operational control, must be reported to this Office within thirty (30) days of such changes; including changes to company name, business address, telephone numbers, principal products/services, and bonding capacity. At such time as it is necessary for your company to be recertified, you will be notified by this office.

If your certification is questioned by any public or private entity, please direct the inquiry to this Office for clarification.

Thank you for your cooperation. On behalf of the State of New York, I wish you luck in your business endeavors, particularly those involving State agencies.

Sincerely,

Michael H. Jones-Bey
Director

Cc: Fran Genovesi

Empire State Development

The hereto named firm is designated a

WBE

by the

Division of Minority and Women's Business Development

INTERACTIVE ELEMENTS INC

NEW YORK, NY

DIRECTOR

CERTIFICATION ANALYST

2484-1991

CERTIFICATE NUMBER

9/2/2011

EXPIRATION DATE

Jon S. Corzine
Governor

Stephen Dilts
Board Chairman

Richard R. Sarles
Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
973-491-7000

July 30, 2009

INTERACTIVE ELEMENTS, INC.
Susan Gilbert, President
60 East 42nd Street, Ste. 2035
New York, NY 10165

Dear Ms. Gilbert:

We are pleased to inform you that your company has been found eligible to continue your certification as a Disadvantaged Business Enterprise (DBE) by **NJ TRANSIT** on behalf of the New Jersey Unified Certification Program (NJ UCP).

Your certification will remain in effect for three years provided that your company continues to meet the eligibility criteria established by Federal Regulation Title 49 CFR Part 26. On an annual basis, you must provide an affidavit and supporting documentation affirming that there have been no changes within your company that would affect your current eligibility as a DBE. It is your responsibility to notify this office in writing within 30 days of any changes. Failure to do so will result in a decertification process. Your company's identification number is [redacted].

The following table lists the North American Industry Classification System (NAICS) code(s) and description(s) that have been assigned to your company in accordance with the service(s) your company render(s).

NAICS CODE	DESCRIPTION
541820	Public Relations Agencies
541614	Process, Physical Distribution, and Logistics Consulting Services ***(transportation consulting)***
541690	Other Scientific and Technical Consulting Services

Your firm's profile is listed in the NJ UCP Directory, which can be accessed at WWW.NJUCP.NET.

On behalf of the NJ UCP partners, **NJ TRANSIT** congratulates you as a continued member of our DBE family. If you have any questions or concerns regarding the NJ UCP or certification issues, please contact our office at (973) 491-8061. Congratulations!

Sincerely,

Sherry O. Clements
Senior Business Diversity Specialist

Enclosures

New Jersey Unified Certification Program

NJ UCP

NJTRANSIT The Way To Go.

New Jersey Department of Transportation

THE PORT AUTHORITY OF NY & NJ

CERTIFIED

DISADVANTAGED BUSINESS ENTERPRISE

INTERACTIVE ELEMENTS, INC.

This certificate acknowledges that the above named firm is certified as a Disadvantaged Business Enterprise as defined in Title 49, Part 26 of the US Code of Federal Regulations. This certificate will remain in effect for three years from the certification date and must be updated annually. **NJ TRANSIT** must be notified within 30 days of any changes in the business that may affect ownership and control.

Your firm will be listed in the NJ UCP directory under the following NAICS Code(s).

NAICS CODE	541820	541614	541690

NJ TRANSIT certified your firm as a DBE on behalf of all NJ UCP partners.

Signed: Ernest C. Williams

Ernest C. Williams, Director
Office of Business Diversity

Signed:

Sherry O. Clements
Senior Business Diversity Specialist

CERTIFICATION DATE: May 19, 2009

EXPIRATION DATE: May 19, 2012

Office of Civil Rights
2 Broadway, 16th Fl.
New York, NY 10004-2207
646-252-1364 Tel
646-252-1381 Fax

Metropolitan Transportation Authority
State of New York

June 29, 2006

Ms. Susan Gilbert, President
Interactive Elements, Inc.
60 East 42nd Street
New York, N.Y. 10165

Re: **DBE CERTIFICATION RENEWAL NOTICE**

Dear Ms. Gilbert:

We are pleased to inform you that your firm continues to meet the eligibility criteria as set forth by U.S. Department of Transportation Disadvantaged Business Enterprise regulations codified at 49 CFR Part 26 and **CERTIFIED** as a Disadvantaged Business Enterprise (DBE) by the Metropolitan Transportation Authority (MTA) Office of Civil Rights, Division of Business Programs. Your firm is certified as a DBE providing the services listed below:

TRANSPORTATION CONSULTING

Your business is eligible to participate as a DBE on MTAHQ, MTA New York City Transit, MTA Long Island Rail Road, MTA Long Island Bus, MTA Metro-North Railroad, MTA Bridges and Tunnels, MTA Capital Construction Company and MTA Bus Company federally assisted projects in the business areas listed above without further certification review. In addition, your firm will continue to be identified as a certified firm in the MTA Directory of Certified Firms.

Your firm's certification status with the MTA is effective for three (3) years from the date of this letter, provided that the firm and the qualifying owner continue to meet the eligibility requirements for DBE certification. However, you are required to submit, annually, on the anniversary date of this notice, a sworn notarized affidavit affirming whether there have been any changes in your firm's disadvantaged status, ownership, control along with supporting documentation. Additionally, please be advised that you must immediately notify the MTA Office Civil Rights, Division of Business Programs, of any changes in your business' ownership, control and/or operation, including business services and capabilities.

It should be noted that the MTA Office of Civil Rights, reserves the right to re-evaluate a business' certification eligibility prior to the firm's participation on a MTAHQ, MTA New York City Transit, MTA Long Island Rail Road, MTA Long Island Bus, MTA Metro-North Railroad, MTA Bridges and Tunnels, MTA Capital Construction Company and MTA Bus Company federally assisted projects or anytime that they determine that such re-evaluation is warranted.

If you have any questions concerning the MTA DBE Program, please call me at (646) 252-1378.

Sincerely,

Carolyn Greene
Assistant Director, Certification
Division of Business Programs

cc: K. Neal, MTA
L. Smith, MTA
Chrono File

Affiliates

Affiliates

SYSTRA Engineering Affiliates

- SYSTRA Consulting
- SYSTRA USA

Hill International, Inc. Affiliates

Business Name	EIN	Address
Hill International, Inc.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Abu Dhabi Branch (registered in Abu Dhabi)	N/A	Suite 1601, 16th Floor, Butti Al Otaiba Building, Sheikh Khalifa Street, Abu Dhabi, UAE
Qatar Branch (registered in Qatar)	N/A	Al Jaber Tower, 4th Floor, Unit 4, Museum Road, Old Salata, PO Box 21835 Doha, Qatar
Trinidad Branch (registered in Trinidad)		Abercromby Court, 86 Abercromby Street, Port of Spain, Trinidad W.I.
6204902 Canada Inc.	[redacted]	3660 Hurontario Street 6th Floor, Mississauga, Ontario, L5B3C4, Canada
Asia/Pacific Hill International Holding PTE Ltd.	[redacted]	33 West Coast Rise, Singapore 127476 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Philippines Branch	N/A	
Beijing Hill International Construction Consulting Company Limited		Unit 17, 17F PingAn International Financial Center Tower B, No. 1-3, XinYuan South Road, Chaoyang District, Beijing 100027, China Tel: +86-10-5829 1808 Fax: +86-10-5829 1999
Berger Hill Limited (JV Company)		Palazzo Pietro Stiges', 90, Strait Street, Valletta VLT 1436, Malta
Qatar Branch	N/A	
Egypt Branch	N/A	
Boyken International, Inc.		400 Northridge Road, Suite 1200, Atlanta, Georgia 30350
Gerencia International de Proyectos, SA de C.V.		Avenida Nichupte, 19, Supermanzana 19, Manzana 2, Plaza Galerias Infinity 1a, of. 107, Cancun, Quintana Roo, Mexico, Cp. 775500
Gerens Hill International, SA	[redacted]	8 Jose Echegaray Street, Building 3, 1a, Las Rozas (Madrid)
Hill Construction Management Ltd.	[redacted]	Bulevar Mihajla Pupina str No. 10V/423, 11070 Novi Beograd-- Tel:
Hill Fenton Development, Ltd. (JV Company)		30 DeCastro Street, Road Town, Tortola, British Virgin Islands
Hill International (Algeria)		
Hill International (Australia) Pty Limited *(p/k/a Knowles Australia Pty Limited)*	[redacted]	Suite 101 Level 1, 2 Bligh Street, Sydney NSW 2000 Australia -- Tel: +00 612-9222-1799 -- Fax: +00 612-9222-1788
Hill International (Azerbaijan) Limited	[redacted]	Baker & McKenzie - CIS Limited, 96, Nizami Street, The Landmark Building, Baku AZ1010, Azerbaijan (Job site): 78 Parliament Ave, Baku, Azebaijan
Hill International (Belarus) Ltd (on hold)		
Hill International (Bucharest) SRL	[redacted]	Bucharest, district 1, 17-19 Dr. Iacob Felix, 3rd Floor, Romania -- Tel: +40-21-319-5248 -- Fax: +40-21-319-5268 Contact: Costas Gravanis
Hill International (Deutschland) GmbH *(p/k/a James R Knowles (Deutschland) GmbH)*	[redacted]	Prinzregentenstr. 20-22, D-80538 Munich, Germany
Dusseldorf Branch	N/A	Zweigniederlassung,, Dusseldorf 40213, Geschaftsanschrift Graf Adof Platz 15, D 40213, Dusseldorf Contact: Thomas Hans-Hofbauer
Hill International (Egypt)		39 Beirut Street, Heliopolis 11341, Cairo, Egypt -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International (Egypt) Ltd.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Hill International (Georgia) Ltd.		Bucharest, district 1, 17-19 Dr. Iacob Felix, 3rd Floor, Romania -- Tel: +40-21-319-5259 -- Fax: +40-21-319-5279 Contact: Costas Gravanis
Hill International (Hellas), S.A.	[redacted]	62 Kifissias Avenue, 151 25 Maroussi, Athens, Greece -- Tel: +30-210-610-5171 -- Fax: +30-210-610-5172
Hill International (Hong Kong) Ltd. *(p/k/a Hill International (HK) Limited p/k/a Pickavance Consulting Limited)*	[redacted]	2401 Wing on Centre, 111 Connaught Road, Central, Hong Kong -- Tel: +852-2542-2818 -- Fax: +852-2541-4648
Japan Branch	N/A	2401 Wing on Centre, 111 Connaught Road, Central, Hong Kong -- Tel: +852-2542-2818 -- Fax: +852-2541-4648
Hill International (Kazakhstan) (on hold)		
Hill International (Kuwait) Ltd.	[redacted]	Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT 1463, Malta
Hill International (Libya) Ltd.	[redacted]	Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT1463, Malta -- Tel: 856-810-6200 -- Fax: 856-810-0404
Registration in Libya	[redacted]	Ben Ghazi, Garyounis District, Building No. 126, Flat No. 7
Hill International (Middle East) Ltd.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Malta : Mind and Management moved to Malta eff 12/5/2008 and the company registered as an Overseas Company in Malta		Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT 1463, Malta

Business Name	EIN	Address
Bahrain Branch	N/A	Al-Rossais Tower, 9th Floor, Bldg 283, Road No. 1704, Area 317, Office 93, Diplomatic Area, PO Box 21034, Manama, Kingdom of Bahrain
Dubai Branch	N/A	Sultan Business Centre, Offices 501, Plot number 11 , Oud Metha Road, Dubai (Sec Cert. 7 Mar 08) Contact: Rick Brown and Samantha Sogolo
Kuwait Branch	N/A	c/o System Development and Project Management, PO Box 13385 Kifan, 71954, Kuwait Contact: Rick Brown and Samantha Sogolo
Morocco Branch	N/A	Contact: Rick Brown and Samantha Sogolo
Saudi Arabia Branch	N/A	Bin Homran Centre, Tahliya Street, Suite 410-A, Medina Road, Jeddah, Kingdom of Saudi Arabia Contact: Rick Brown and Samantha Sogolo
Hill International (Morocco) s.a.r.l.	[redacted]	219, BD. Zerktouni, Residence El Bardai, Casablanca, Morocco
Hill International (North Africa) Ltd.	[redacted]	City Stars, Star Capital 8, 6th floor, Office No. 62, El Forsan St Nasr City, Cairo, Egypt -- Tel:+202 24801900 Fax: +202 24801903
Hill International (Puerto Rico), Inc.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International (Syria) LLC		establishing
Hill International (Syria) Ltd.	[redacted]	"Palazzo Pietro Stiges", 90 Strait Street, Valletta VLT1463, Malta
Hill International (UK) Ltd.	[redacted]	1 London Bridge, London, SE1 9BG -- Tel: +44-20-7089-7020 -- Fax: +44-20-7089-7030
Romania Branch	N/A	Municipiul Bucuresti, Sector 1, B-DUL Nicolae Titulescu, Nr. 1, Bl.A7, Sc.4, Et.1, Ap 96
Hill International Development (II) Ltd.		303 Lippincott Centre, Marlton, NJ 08053
Hill International Development Ltd.		303 Lippincott Centre, Marlton, NJ 08053
Hill International Holdings Ltd	[redacted]	Palazzo Pietro Stiges, 90 Strait Street, Valletta VLT 1463, Malta
Hill International Hospitality (Americas) Ltd.		303 Lippincott Center, Marlton, NJ 08053
Hill International Malaysia Sdn Bhd (p/k/a James R. Knowles (M) Sdn Bhd)	[redacted]	Level 7, Unit 7, Block 3B, Plaza Sentral, Jalan Stesen Sentral 5, Kuala Lumpur Sentral, 50470 Kuala Lumpur -- Tel: +603-2274-0917 -- Fax: +603-2274-0918
Hill International Petrol (Egypt) Ltd. (JV Company)		39 Beirut Street, Floor 10, Heliopolis, Cairo Contact: Sarah Hussenein
Hill International Project Management (India) Private Limited		
Hill International Real Estate, LLC	[redacted]	303 Lippincott Centre, Marlton, NJ 08053
Hill International Real Estate Partners, LP		303 Lippincott Centre, Marlton, NJ 08053
Hill International Rijeka d.o.o.		Rijeka, Nikole, Tesle 9, Croatia -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International S A.	N/A	41 Boulevard Prince Henri L 1724 Luxembourg -- Tel: 011-352-46-83-83 -- Fax: 011-352-46-84-84
Greek Branch (registered in Greece)	N/A	62 Kifissias Avenue, Maroussi,Athens 151 25, Greece
Latvia Branch (registered in Latvia)	N/A	13-36 Dzirnavu Street, Riga, LV-1010
Romania Branch	N/A	Municipiul Bucuresti, Sector 1, B-DUL Nicolae Titulescu, Nr. 1, Bl.A7, Sc.4, Et.1, Ap 96
Hill International Sp.zo.o(p/k/a Euromost Polska)	[redacted]	Atrium Plaza, Jana Pawla II 29, 00-867 Warsaw, Poland Tel: +48 22 58 13 777 Fax: +48 22 58 13 778
Hill International Services Ltd.	[redacted]	30 DeCastro Street, Road Town, Tortola, BVI -- Tel: 856-810-6200 -- Fax: 856-810-0404
Hill International Vietnam Co. Limited		Temporary: 7th Floor, Building B2, Vinh Trung Plaza, Bing Trung Ward, Danang City, SR of Vietnam
Hill Jianke Project Management (Shanghai) Co. Ltd. (JV Company)		Room No. 208, Unit F, Building 5, No. 7 Xiushan Road, Chongming Industrial Park, Chongming County, Shanghai, Ching
Hill Redwood Development Corp.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053 also c/o ZAC Management Group LLC, 101 West Avenue, Suite 300, Jenkintown, PA 19046
Hill Redwood Development, Ltd (JV Company)	[redacted]	30 de Castro Street, Road Town, Tortola, British Virgin Islands
Hill TMG International (JV Company)		36 Mosadak Street, Al-Doki, Giza
I M Petroleum Services Ltd.		30 de Castro Street, Road Town, Tortola, British Virgin Islands
James R. Knowles (Australian Holdings) Pty Limited	[redacted]	Suite 101 Level 1, 2 Bligh Street, Sydney NSW 2000 Australia -- Tel: +00 613 9699 5124 -- Fax: +00 61 3 9699 5104 Contact: Anna Empy

Business Name	EIN	Address
James R. Knowles (Egypt) Limited	[redacted]	119 Misr Helwan Agricultural Road, Maadi, Cairo, Flat 42, Egypt -- Tel: +20-2-525-4115 -- Fax: +20-2-525-4118
James R. Knowles (Holdings) Limited	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
James R. Knowles (Hong Kong) Limited	[redacted]	2401 Wing on Centre, 111 Connaught Road, Central, Hong Kong -- Tel: +852-2542-2818 -- Fax: +852-2541-4648
James R. Knowles (Middle East) Limited	[redacted]	
James R. Knowles (NSW) Pty Limited		Suite 101 Level 1, 2 Bligh Street, Sydney NSW 2000 Australia -- Tel: +00 613 9699 5124 -- Fax: +00 61 3 9699 5104
James R. Knowles (Overseas) Limited	[redacted]	
James R. Knowles (Thailand) Ltd.		
James R. Knowles (Worldwide) Limited	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
James R. Knowles Global Limited	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
John Shreeves and Partners Limited		1 London Bridge, SE 1, 9BG, London EC1M 5RR -- Tel: +44-20-7596-0000 -- Fax: +44-20-7596-0100
John Shreeves Holdings Limited		1 London Bridge, SE 1, 9BG, London EC1M 5RR -- Tel: +44-20-7596-0000 -- Fax: +44-20-7596-0100
KJM & Associates, Ltd.	[redacted]	500 108th Avenue NW, Suite 1000, Bellevue, WA 98004 -- Tel: 425-451-3881 -- Fax: 425-454-8965
Knowles Consultancy Services Inc.	[redacted]	15999 Hurontario Street, Suite 106, Mississauga, Ontario L5G451 Canada -- Tel: 905-804-1958 -- Fax: 905-804-9327
Knowles Director Inc.		Ajeltake Road, Ajeltak Island, Majuro, Marshall Islands MH96960 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Knowles Hill Pty Limited *(p/k/a Knowles Lawyers Pty Limited)*	[redacted]	
Knowles Limited	[redacted]	
Knowles North America Holdings Inc.		3660 Hurontario Street, 6th Floor, Mississauga, Ontario L5B3C4
Knowles Secretary Inc.		Ajeltake Road, Ajeltak Island, Majuro, Marshall Islands MH96960 -- Tel: 856-810-6200 -- Fax: 856-810-0404
KRJ Consulting Limited *(p/k/a James R Knowles Limited)*	[redacted]	Vistorm House, 3200 Daresbury Park, Daresbury, Warrington, Cheshire WA4 4BU -- Tel: +44-1928-756500 -- Fax: +44-1928-756501
Makan Hill International Ltd. (JV Company)		Pending: Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands
Mediterranean Leisure (Egypt) Ltd.		30 de Castro Street, Wickhams Cay 1, Road Town, Tortola, British Virgin Islands
PCI Group, LLC	[redacted]	10801 West Charleston, Suite 650, Las Vegas, NV 89135 Tel: 702-515-7490 Fax: 702-515-7491
SIA Hill International Baltic	[redacted]	Elizabetes str.15-1 Riga, Latvia LV-1010 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Singapore Hill International Pte Limited *(p/k/a James R. Knowles (Singapore) Pte Ltd)*	[redacted]	331 North Bridge Road, #12 01/02, Odeon Towers, Singapore 188720 - Tel: +00 65 6338 2455 -- Fax: +00 65 6339 8568
Stanley Baker Hill (Iraq), Inc. (JV Company)		303 Lippincott Centre, Marlton, NJ 08053 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Stanley Baker Hill, LLC (JV Company)	[redacted]	225 Iowa Avenue, Muscatine, IA -- Tel: 563-264-6204 -- Fax: 563-264-6658
Transportation Construction Services, Inc.	[redacted]	303 Lippincott Centre, Marlton, NJ 08053 -- Tel: 856-810-6200 -- Fax: 856-810-0404
Yeil Hill International CM Ltd. (JV Company)		Lotte Kwanak Tower, room 402, 395-67 Shindaebang-dong, Dongjak-gu, Seoul, Korea 156-711 Tel: 82-2-849-5660 Fax: 82-2-849-5661

Gannett Fleming, Inc. Affiliates

Subsidiary of Gannett Fleming, Inc.:

- Gannett Fleming of Michigan, Inc.

Affiliates of Gannett Fleming, Inc.:

- Ganflec Architects and Engineers, Inc.
- Gannett Fleming West, Inc.
- Gannett Fleming Engineers and Architects, P.C.
- Gannett Fleming Engineers, P.C.
- GF Caribe Engineers, P.S.C.

Contract Exceptions

"…superb job by the SYSTRA Team at every step of the way, from bringing the stakeholders along, to leading the regional meetings, to producing high-quality presentations…to leading development of the Phase I report."

JOHN CONLOW
SENIOR DIRECTOR OF CORRIDOR PLANNING
AMTRAK

Contract Exceptions

The **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** team has separately attached our specific exceptions.

Conflict of Interest

Conflict of Interest

Neither the **PATH Forward Partnership - SYSTRA, Hill, Gannett Fleming (SHG)** team and our subconsultant team members, nor our project personnel have any conflict of interest that would preclude us from performing the services required under this contract without the appearance of any impropriety.

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation thereof (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Authority website at *http://www.panynj.gov/AbouttthePortAuthority/ContactInformation/foi_policy.html*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

The McKissack Group, Inc.

(Company)

Michael Tolliver

(Signature)

Vice President

(Title)

January 4, 2010

(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

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Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Authority website at *http://www.panynj.gov/AbouttthePortAuthority/ContactInformation/foi_policy.html*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Delcan Corporation
(Company)

(Signature)

President
(Title)

January 6, 2010
(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

January 14, 2010

The Port Authority of New York & New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010
Attention: RFP Custodian

RE: Proposal for the Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-in Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH) RFP#19980

To the Proposal Reviewers:

The McKissack+Delcan Joint Venture is pleased to submit our Proposal in response to the above referenced Request for Proposals (RFP). Our joint venture combines The McKissack Group, one of the country's leaders in program and construction management consulting, and Delcan Corporation, a leader in transportation engineering, transit program and project management and quality management oversight. Our joint venture is augmented by our sub-consultant PACO Group, Inc., a firm that specializes in project controls and is certified as a minority business enterprise (MBE) with the Port Authority. Combined, our team offers the Port Authority the knowledge, experience and expertise required for the successful delivery of the services as outlined in your RFP dated December 15, 2009. The proposal meets and exceeds all the requirements set forth in the RFP, and provides the Port Authority with several advantages and capabilities that we believe to be unique to our team.

In our proposal, the McKissack+Delcan team provide a comprehensive strategy that satisfies all the requirements of the proposed Work Scope. As required, attached and included in this section are the completed joint venture firm profiles, Attachment C of the RFP. In addition, a copy of the joint venture agreement is included.

The McKissack+Delcan Proposal is fully Responsive to the Port Authority's RFP.

We have carefully analyzed and responded to every requirement of the Port Authority's RFP. We are confident that you will find our proposal to be fully responsive to the requirements set forth in the Port Authority's RFP #19980. A matrix outlining all of the Port Authority's RFP requirements and our team's compliance with those requirements can be found at the end of this section.

Below, we have summarized many of the key points presented in our proposal that specifically address the criteria required by the Port Authority in the responses to its RFP. In so doing, we have highlighted our extensive and very relevant firm experience and staff expertise, our comprehensive and proactive approach, and our commitment to the success of the Capital Program.

McKissack+Delcan's Proposed Staff Have the Qualifications and Experience Needed by PATH for its Success

McKissack+Delcan's proposed staff bring an impressive depth and breadth of experience in transit and transportation engineering, program management and controls, logistics planning and coordination, risk management and quality management. Our joint venture will be managed by Officers-in-Charge, Mike J. Kaleda, P.E., Executive Vice President for McKissack, and Brian Stearman, President of Delcan Corporation's North American Infrastructure Operations, both of whom are Principals of the joint venture firms. Day-to-day project activities and management of the team will be provided by our Senior Planning Manager, Robert McDermott, who brings more than 30 years of experience in project management, operations and facilty force logistics in transportation capital and expansion projects, the majority of which have been performed in the New York Metropolitan area. He will be supported by our key staff consisting of Field Coordinator(s), Plan Coordinator(s), Cost Estimating Engineer(s) and Scheduler(s) – a superior support team, with each member having extensive relevant experience to successfully carry out their project role. Our team will bring the following advantages to the Port Authority:

- Senior experienced staff who are recognized as leaders in their respective areas of transit expertise, several with knowledge of Port Authority policies and procedures.
- A project team reinforced by our team firms and affiliates staff of more than 6,000 architects, engineers and consultants – with more than 2,000 having national and international rail transit experience.
- A proposed team meeting the documented needs of PATH, as well as having available staff with the qualifications and capabilities to provide a more full service skill set to the Authority if needed – including specialists for staff recruiting, project cost controls, planning, preliminary engineering, design, construction, constructability, value engineering, operations, systems integration and independent expert opinion.

The McKissack+Delcan Team Has Excellent Firm Qualifications and Experience

The McKissack+Delcan Joint Venture was formed in 2008 for the specific purpose of pursuing program management and oversight services for transportation clients throughout North America. The JV's first contract was for the NYC Metropolitan Transportation Authority (MTA) providing Independent Engineering Consulting (IEC) services for their entire $21 billion capital program. The team went on to win more contracts, including two with The Port Authority of New York and New Jersey, one with the Transportation Research Board, and most recently, a pending contract with the Federal Transportation Administration (FTA) for Project Management Oversight (PMO) services. Additional firm qualifications of our team include:

- Extensive program and project experience by the firms on major rail transit capital programs projects that include, logistics planning, operations and facility force demand coordination, project scheduling and controls, resource estimating, and risk management.
- A Joint Venture partnership with a proven track record of working together in providing project management and oversight on multi-billion dollar transit programs.
- Three firms that collectively bring more than 184 years of successful service to the transportation industry:
  - McKissack & McKissack 106 years (M/WBE)
  - Delcan Corporation 57 years
  - PACO Group 21 years (MBE)

- More than 200 completed transit projects in the United States…including work for the 10 largest North American transit agencies, and more than 1,000 transit projects in dozens of countries around the world.
- Extensive and recent project management and oversight experience on large, highly visible and complex projects – with a construction value exceeding $30 billion in just the past 5 years.
- A commitment to significantly exceeding the Port Authority's M/WBE targets as well as contributing to the overall success of the Port Authority's M/WBE program:
  - A diverse team comprised of more than 66% women/minority-owned firms.
  - A JV partner firm, McKissack, that is the oldest certified M/WBE firm in the United States, one of the largest in New York City, and has a proven track record in successful mentorship of other M/WBE firms (leadership by example – a capability this is unique to our Team).
- Member firms that have won a number of awards related to project management/controls and innovative quality management approaches, such as:
  - Delcan's shared CMAA 2003 International Project of the Year Award for the project management of $1 billion Sheppard Subway project in Toronto.
  - Over four awards for the TREX SE Corridor LRT – I-25 project in Denver relating to the innovative project management and quality management expertise implemented by Delcan.

Our Teams' Technical Approach Offers PATH Superior and Innovative Approaches Proven on Numerous Major Transportation Infrastructure Projects

Detailed in our proposal is our proven approach to meeting and exceeding PATH's requirements, structuring all of the work so that it is conducted in a planned, systematic and proactive manner through the use of risk management, process optimization and due-diligence. Highlights of some of the value-added and unique attributes of our technical approach are summarized below:

Initial Planning

McKissack+Delcan will undertake a series of activities to properly plan for all work in an effort to achieve success. This includes the development of processes and tools to aide in the communication and coordination amongst all parties. Our planning process will include the scope review of PATH maintenance and capital projects, and meetings to review schedules, interface issues, potential risk areas, contract changes, etc. We will meet to discuss the Comprehensive Logistics Plan, and will ultimately submit a Work Plan to PATH for approval, which will govern the processes and procedures to be followed by our team. In addition, we propose to implement a web-accessible database system, proven on over $18 billion worth of transportation projects, to enable effective process completion and efficient actions-based communication.

Tasks A through C – Coordination and Evaluation of PATH Track Access, Schedules, and Facilty Forces Requirements

Due to the significant demands of the Capital Program for track access, facility forces and rail equipmnent, we will introduce efficiency and maximize effectiveness in prioritizing these demands by automating the processes and tailoring the web-accessible database tool. The process and tools will increase the efficiency and effectiveness for the:

- forms completion, submission, review, approval and tracking of track access requests;
- coordination and communications necessary for schedule and cost estimate updates and reviews;
- retrieving information and tracking progress, issues and status in real time; and

- dissemination of information and action-required email alerts with links to user updates and to-do lists.

Furthermore, our team will increase its focus on areas of higher risk and poor progress performance when conducting the analysis to prioritize the track access and determining the demand and allocation for facility forces for the various projects. Risk and performance will also be carefully considered in the analysis of the project schedules and in the development of the Master Schedule and updates. The project conflicts and the high risk activities of systems integration and testing/commissioning will be closely analyzed and monitored, to proactively mitigate any risks. Assessments of the impacts of the revised schedules, contract changes, and program scope modifications on available and planned resources will be conducted throughout the life of the Program.

Task D – Logistical Support

McKissack+Delcan will provide logistical support by undertaking planning studies and investigative analysis, and will provide project management functions to deliver the results of these efforts. If required, our team is fully capable to prepare specifications, standards, contract language, and other bid package documents. We will prepare detailed presentations, graphics and other material so that the status and progress of the PATH Capital Program is presented in a clear and concise manner. Other support that McKissack+Delcan can provide includes Value Engineering and Constructability Reviews, Systems Integration Analysis, and Cost Control expertise, if required.

Our Teams Management Approach is Structured to Provide PATH the Best Service

The success of our services is dependent on following a proper management approach comprised of several areas that contribute to the overall success:

- *Key Staff* - Our team consists of key professionals that have the expertise and experience to meet and exceed PATH's expectations, and assist in making the Program a success.
- *Management Structure* – McKissack+Delcan will act as an integrated part of the Logistics Planning Group (LPG). Our organization will be effective and meet the needs of our required role.
- *Contractural and Cost Issues* – The joint venture Officers-in-charge will periodically assess whether the team is satisfying PATH's epectations, and if not, will rectify any problems.
- *Technical Direction and Issues* – McKissack+Delcan professionals will communicate with the appropriate PATH departmental and Capital Program management and technical staff to properly conduct their coordination, scheduling, estimating and logistical planning support functions. Recommendations will only be provided through our Senior Planning Manager to the LPG Program Director.
- *Internal Quality Audit* – An independent Quality Management Auditor will confirm and track our team's compliance to our own documented processes and plans, by conducting annual audits and submitting the findings to the LPG Program Director.
- *Cost Management and Project Accounting* – Our cost management and accounting system assures clarity in task accounting, deliverables, schedule and scope for completing the assigned work.
- *Schedule Management* – We will manage our ongoing work by monitoring changes made to the Master Schedule updates. Clear and frequent communication will enable us to plan for any required additional staff to complete new tasks requested by PATH.
- *Performance Reviews* – Senior management will facilitate and engage PATH to actively participate in quarterly reviews of our team's coordination and logistics planning performance, to solicit constructive feedback and enable our continuous improvement.

- *Communications and Reporting* – We will ensure clear communication and reporting through frequent project team meetings, use of current communication technology such as video conferencing and computer teleconferencing (WebEx), and our web-based database application to improve the efficiency and effectiveness of communications and reporting.
- Quality Management – All deliverables will follow the process set forth in our Quality Management Plan which follows the ISO 9001 format.

McKissack+Delcan have assembled a team with the right expertise and experience to implement the right approach to help the Port Authority achieve success in its Capital Program.

Our entire team recognizes the importance of the PATH Capital Program and how we can have a significant impact on the success of the Authority's five-year $4.1 billion Capital Program by providing the right experience, expertise and strategic approach. We are committed to working with the Port Authority to achieve that success – and will give this assignment the priority it deserves in providing and maintaining a high quality staff through its duration. Our team's deep pool of resources will significantly contribute to our ability to meet and exceed the Port Authority's expectations.

We appreciate the opportunity to submit this proposal, and look forward to further discussions with the Port Authority. Michael Kaleda has the authority to bind this submission and negotiate the contract on behalf of the McKissack+Delcan Joint Venture. Should you have any questions or require further information, please contact him at 212.349.6500, ext. 102 or at mkaleda@mckissack.com.

Yours very truly,

Michael J. Kaleda, PE
Executive Vice President
The McKissack Group, Inc.

Brian Stearman
President, Delcan Infrastructure Operations
Delcan Corporation

THE MCKISSACK GROUP, INC.

and

DELCAN CORPORATION

DATE: JANUARY 13, 2010

Table of Contents

1. DEFINITIONS 1

2. INTENT AND INTERPRETATION OF AGREEMENT 2

2.1. Fair Operation of Agreement 2

3. NAME OF JOINT VENTURE 3

3.1. Name 3
3.2. Formation of Joint Venture 3
3.3. Principal Place of Business - 3

4. SCOPE OF THE JOINT VENTURE 3

4.1. Scope 3
4.2. Legal Relationship 3
4.3. Limited Authority 3
4.4. Own Expenses 3
4.5. Negotiation of Contract 3

5. PROPORTIONATE INTERESTS 3

5.1 Participation 3
5.2 Allocation of Personnel 3
5.3 Employment of Personnel 4

6. ADMINISTRATION 4

6.1. Representatives 4
6.2. Changing Representatives 4
6.3. Policy Committee 4
6.4. Policy Committee Meetings 4
6.5. Representative's Attendance 4
6.6. No Agreement 4
6.7. Resolution of Disputes 5
6.8. Function of the Policy Committee 5
6.9. Powers of the Policy Committee 5
6.10. Policy Committee Not Chargeable 6
6.11. Appointment of Program Manager 6
6.12. Duties of Program Manager 6
6.13. Responsibilities of Joint Venturers 7
6.14. Personnel, Facilities and Expenses 7
6.15. Key Personnel 7
6.16. Assignment of Work 7
6.17. Documents 7
6.18. Contracts and Commitments 7

7. FINANCIAL 7

7.1. Contributions 7
7.2. Disproportionate Contribution 7
7.3. Loans 8
7.4. Banking 8
7.5. Reimbursement of Joint Venturers for Payroll and Expenses 9
7.6. Accounting and Net Income 9
7.7. Net Income or Loss of Joint Venture 9
7.8. Non-Authorized Charges 9
7.9. Equipment 9

7.10. PROPERTY OF THE JOINT VENTURE 10

8. INSURANCE AND LIABILITIES 10

8.1. INSURANCE 10
8.2. LIABILITIES AND INDEMNIFICATION 10

9. TERMINATION 10

9.1. TERMINATION OF THE JOINT VENTURE 10
9.2. WINDING UP 11
9.3. EARLIER TERMINATION OF RELATIONSHIP 11
9.4. OTHER CAUSES FOR TERMINATION 11
9.5. DISTRIBUTION UPON EARLIER TERMINATION OF RELATIONSHIP 12

10. DISPUTE RESOLUTION 12

10.1. DISPUTE RESOLUTION 12
10.3. SELECTION OF ARBITRATOR 13
10.4. DEEMED ACCEPTANCE OF ARBITRATOR 13
10.5. ARBITRATION ACT 13
10.6. AUTHORITY OF ARBITRATORS 13

11. NOTICES 13

11.1. DEEMED DELIVERY 13
11.2. ADDRESS FOR NOTICE 13

12. GOVERNING LAW, ATTORNMENT 14

12.1. GOVERNING LAW 14

13. CONFIDENTIAL INFORMATION 14

13.1. CONFIDENTIALITY 14
13.2. TERM OF FORCE 14
13.3. INTENTIONS OF PARTIES 14

14. GENERAL 14

14.1. AMENDMENT 14
14.2. INTELLECTUAL PROPERTY 14
14.3. SOLICITATION OF EMPLOYEES 15
14.4. ASSIGNMENT OF INTEREST 15
14.5. SUBCONTRACTING 15
14.6. THIRD PARTY BENEFICIARIES 15
14.7. PUBLICITY 15
14.8. ETHICAL BUSINESS PRACTICES 15
14.9. PLEDGING OF CREDIT 15
14.10. NO WAIVER 15
14.11. FURTHER ASSURANCES 16
14.12. SEVERABILITY 16
14.13. HEADINGS 16
14.14. COUNTERPARTS 16

SCHEDULE A 17

BASIS OF REMUNERATION 17

THIS JOINT VENTURE AGREEMENT made as of the ● day of April 2009,

B E T W E E N:

The McKissack Group, Inc.,
a corporation incorporated under the laws of New York

(hereinafter referred to as " TMG")

- and -

Delcan Corporation,
a corporation incorporated under the laws of Illinois

(hereinafter referred to as "Delcan")

WITNESSES THAT:

WHEREAS TMG and Delcan, as joint venturers (collectively referred to as the "Joint Venturers" or singly as a "Joint Venturer"), intend to enter into a contract or a series of contracts (collectively or singly referred to as the "Contract") with The Port Authority of New York and New Jersey (the "Client") to provide Expert Professional Planning, Project Management and Related Services as Requested on a Call-in Basis (the "Services) for the Port Authority Trans-Hudson Corporation's (PATH) 2010 – 2014 Capital Program (the "Program");

AND WHEREAS the Joint Venturers desire to enter into this agreement (the "Agreement") and to form an unincorporated joint venture, under the laws of the State of New York, for the purpose of carrying out and performing the Contract, any amendments or supplements thereto and any other assignments accepted by the parties which involve work connected with, or arising from, the Program;

AND WHEREAS the Joint Venturers may amend this Agreement to incorporate any relevant provisions or requirements of the final terms of the Contract, as they become known;

NOW THEREFORE, in consideration of the mutual promises and agreements herein contained, the parties agree to constitute themselves as Joint Venturers for the purpose of performing and completing the Contract, and agree that the Contract shall be performed and completed by them as a Joint Venture (herein referred to as the "Joint Venture"), subject to the following terms and conditions:

1. DEFINITIONS

In interpreting the Agreement the following definitions shall apply:

1.1. "Billable Expenses" shall mean the expense costs approved for invoicing to the Client in accordance with the Contract, including:

- **$** the cost of any billable expenses incurred when performing Services under the Contract;
- **$** billable sub-consultant costs, which may be incurred by a Joint Venturer or the Joint Venture from time to time when conducting Services under the Contract; and

- **$** any additional expenses incurred by the Joint Venture and approved by the Client as billable under the terms of the Contract.

1.2. “Billable Rate” shall mean the hourly billing rate for each staff member approved for payment by the Client in accordance with the Contract and includes base salary, overhead and fees.

1.3. The "book" value of an asset shall be substituted for its adjusted tax basis if the two differ, but otherwise Net Profits and Net Losses shall be determined in accordance with federal income tax principles.

1.4. “Contributions” shall mean the amount of money provided by the Joint Venturers to the Joint Venture to maintain a reasonable balance in the Joint Venture Bank Account, as determined by the Policy Committee, and to pay for various approved expenses incurred by the Joint Venture which are not recoverable from the Client.

1.5. “Gross Income” shall mean the Invoice Amount, minus the Billable Expenses. Non-billable Costs, incurred by the Joint Venture and/or the Joint Venturers, which are not billable to the Client, are not included as Gross Income.

1.6. "Internal Revenue Code", "Code" or "I.R.C." shall refer to the current and applicable Internal Revenue Code.

1.7. “Invoice Amount” shall mean the total labor and expense costs billable to the Client in accordance with the Contract, as defined in Schedule A, including:

- the number of billable hours worked by staff performing Services under the Contract, multiplied by the Billable Rate approved by the Client;
- amounts of fixed price work, as discussed in 7.5, approved for payment by the Client in accordance with the Contract;
- all Billable Expenses including any fee markup allowed by the Client on Billable Expenses.

1.8. “Net Income” shall mean Gross Income minus any Non-billable Costs, including liabilities, if any, incurred by the Joint Venture.

1.9. “Net Profits and Net Losses" means the taxable income and loss of the Joint Venture.

1.10. “Non-billable Cost” shall mean time and/or expense costs incurred by the Joint Venture that are not recoverable from the Client, including costs as approved by the Policy Committee.

1.11. "Treasury Regulations" shall refer to those regulations promulgated by the Department of the Treasury with respect to the Internal Revenue Code.

2. INTENT AND INTERPRETATION OF AGREEMENT

2.1. **Fair Operation of Agreement** - In entering into this Agreement, the Joint Venturers recognize that it is impracticable to make provision for every contingency which may arise during the term of the Joint Venture. Therefore, the Joint Venturers shall interpret this Agreement based upon principles of fairness, and if an infringement of these principles is anticipated or disclosed, then the Joint Venturers shall promptly consult together in good faith in an endeavor to agree upon such action as may be necessary to remove the cause(s) of such infringement.

3. NAME OF JOINT VENTURE

3.1. **Name** - The Contract shall be entered into in the name of “McKissack + Delcan, Joint Venture III". All monies, equipment, materials, supplies and other properties acquired by the Joint Venture shall be held jointly in the name of the Joint Venture.

3.2. **Formation of Joint Venture** - The Joint Venturers shall execute and file whatever certificates and documents are required to form and operate the Joint Venture under the laws of the State of New York.

3.3. **Principal Place of Business -** The Joint Venture shall maintain its principal place of business at 150 West 30th Street, Suite 1200, New York, New York 10001. The Joint Venture may re-locate its office from time to time or have additional offices as the Joint Venture may determine necessary.

4. SCOPE OF THE JOINT VENTURE

4.1. **Scope** - The Joint Venture hereby constituted shall be solely for the purpose of securing, carrying out and performing the Contract and any amendments or supplements thereto.

4.2. **Legal Relationship** - The relationship of the Joint Venturers shall be limited to the performance of their respective responsibilities under this Agreement and under the Contract. Except as expressly stated herein, nothing in this Agreement shall be construed as creating any partnership, association, agency or fiduciary relationship between the parties and a Joint Venturer shall not make any representations to any person to the contrary.

4.3. **Limited Authority -** Except as expressly provided in this Agreement, a Joint Venturer shall not have any authority to act for, or assume any obligation or responsibility on behalf of, the other Joint Venturer or the Joint Venture, and a Joint Venturer shall not take any such action or assume any such obligation or responsibility.

4.4. **Own Expenses** - Except as set forth to the contrary herein, each Joint Venturer shall bear its own expenses in connection with the negotiation of this Agreement and negotiation and execution of the Contract, including, but not limited to, the fees of any attorney, financial advisor or other consultant. Notwithstanding the foregoing, the cost of forming the Joint Venture, including, but not limited to, filing fees and taxes constitute a Joint Venture expense and shall be subject to payment in accordance with Article 7.

4.5. **Negotiation of Contract** - The Joint Venturers shall collaborate in the negotiation of the Contract; provided, however, that TMG shall be the primary contact with the Client in connection with any such negotiations, subject to Article 4.3 of this Agreement with regard to the limitation of authority.

5. PROPORTIONATE INTERESTS

5.1 **Participation** - Each Joint Venturer shall participate in the Joint Venture on the following basis: TMG 65% and Delcan 35% (which proportions are together and individually referred to herein as the "Interests" or "Interest", as the case may be) which should approximate that Joint Venturer’s Interest in the Joint Venture.

5.2 **Allocation of Personnel** - It is the intention of the Joint Venturers that, subject to the availability of suitable personnel, the staff supplied to conduct the Services by each Joint Venturer, measured by the total Gross Income value of the work performed by said staff, should approximate the following proportions: Delcan 35% and TMG 65%. The Policy Committee shall establish a staffing plan in this regard. If, in the opinion of the Policy Committee, the work allocations of a Joint Venturer, measured by Gross Income, are not being maintained within 5% of the total Gross Income relative to that Joint Venturer’s proportion as described above (i.e., if a

Joint Venturer's Interest is 35%, then the associated work allocation should be between 30% and 40% of total Gross Income), the Policy Committee will adjust staff, assignments or scopes of work. For the purposes of the preceding sentence, the percentage participation of the Joint Venturers shall be reviewed by the Policy Committee at least every six (6) months. In making adjustments, if any, the Policy Committee shall consider any proposal regarding project staffing put forward by the Program Manager. For greater clarity, the entitlement of a Joint Venturer to staff Program positions in order to achieve the foregoing proportions shall not be dependent upon such Joint Venturer having identified specific personnel to fill such positions at the time that the Joint Venture's proposal was submitted to the Client.

5.3 Employment of Personnel - All personnel employed or otherwise engaged by a Joint Venturer and provided to the Joint Venture shall, notwithstanding their activities with respect to the Joint Venture, be and remain employed or otherwise engaged by the relevant Joint Venturer and not by the other Joint Venturer nor the Joint Venture, and the Joint Venturer employing or engaging such personnel shall have the sole responsibility for discharging all obligations to and in respect of such personnel.

6. ADMINISTRATION

6.1. Representatives - The Joint Venturers shall each designate one representative (hereinafter referred to as a "Representative") and one alternate representative (hereinafter referred to as an "Alternate") upon whom the other Joint Venturer may rely with regard to the management policy of the Joint Venture. The initial Representative of TMG shall be Michael Kaleda and the initial Alternate shall be Cheryl McKissack. The initial Representative of Delcan shall be Brian Stearman and the initial Alternate shall be Alan Rumsey.

6.2. Changing Representatives - A Joint Venturer may change its Representative(s) or Alternate(s) at any time or from time to time with effect upon notice in writing to the other party.

6.3. Policy Committee - The two Representatives shall constitute the Policy Committee of the Joint Venture ("Policy Committee"). Each member of the Policy Committee shall have an equal vote, with all matters decided by unanimous vote. The Chair of the Policy Committee, if any, shall not have a second or casting vote. Each member of the Policy Committee shall be authorized to act for, and on behalf of, and to bind the party which that Representative represents. The Program Manager may attend meetings of the Policy Committee, but may not vote. At least annually, the Policy Committee shall select one Representative to act as chair (the "Chair"). The Joint Venturers intend that the Chair and the Program Manager shall not be employees or representatives of the same Joint Venturer, and the Policy Committee shall act accordingly in making appointments to either role.

6.4. Policy Committee Meetings - Subject to this Agreement, the Policy Committee shall be authorized and empowered to fix its own rules and procedures, including, but not limited to, rules for holding its meetings and the time, place and notice thereof. The Policy Committee shall meet not less than once every three months, at dates and times to be fixed by the Policy Committee. In addition, meetings of the Policy Committee may be called by either of the two Representatives or by the Program Manager on not less than 72 hours' prior notice, provided that such notice may be waived in writing.

6.5. Representative's Attendance - A Representative may, if all of the Representatives consent either generally with respect to all meetings or with respect to any specific meeting, participate in a meeting of the Policy Committee by means of such telephone or other communications facilities as permit all persons participating in the meeting to hear each other, and a Representative participating in such a meeting by such means is deemed to be present at that meeting. Alternatively, a Representative may designate the Alternate to attend a meeting on the Representative's behalf.

6.6. No Agreement - In the event that the members of the Policy Committee are unable to reach unanimous agreement on any matter, any Joint Venturer may submit the matter to a panel

comprised of the presidents of each of the Joint Venturers, which presidents shall then attempt to resolve the matter in an agreeable manner. If the matter is not resolved by such panel of presidents, the matter may be referred first to mediation and then to arbitration by any Joint Venturer in accordance with Article 10 hereof.

6.7. Resolution of Disputes - If the Policy Committee is unable to reach a decision on any matter, the Program Manager shall take the necessary and appropriate steps to safeguard the best interests of the Program and the Joint Venture pending resolution of the disputed matter in accordance with the relevant sections of Article 6, provided that other than in case of emergency, the Program Manager shall provide advance written notice to the Policy Committee regarding any step intended to be taken by the Program Manager pursuant to this Article 6.7.

6.8. Function of the Policy Committee - Subject to the terms and conditions of the Contract and this Agreement, the Policy Committee shall provide general direction and assistance to the Program Manager in the overall management, direction and control of the Program. The Policy Committee shall meet as required to act on necessary matters pertaining to the Joint Venture. Minutes of such meetings shall be kept in such manner and place as shall be determined by the Policy Committee.

6.9. Powers of the Policy Committee – The Policy Committee shall have the following powers, among others:

(a) To approve any modifications or amendments with respect to the Contract and the Services.

(b) To approve the assumption of liabilities or the undertaking of commitments by the Joint Venture which are not reimbursable by the Client including, but not limited to, (i) leases of facilities or equipment with a value in excess of $10,000 per year, (ii) procuring or selling any equipment with a value in excess of $5,000, (iii) procuring third party services with a value in excess of $10,000 in any single transaction, and (iv) subcontracts with a value in excess of $10,000

(c) To establish the reporting requirements to be followed by the Program Manager.

(d) To determine the time and place of holding its meetings and to establish procedures for conducting Policy Committee affairs.

(e) To request from each Joint Venturer, on the recommendation of the Program Manager, the provision of any necessary working capital for the performance and execution of the Services.

(f) To determine Joint Venture insurance coverages and limits, and to determine reserves for potential liabilities that may result from or arise out of the Services.

(g) To perform quarterly reviews of all financial matters and Program progress and status.

(h) To approve acts of suretyships or guarantees that may be executed by the Joint Venturers in connection with the performance of the Services.

(i) To consider all claims and disputes of any kind between the Joint Venture and the Client, subcontractors and/or third parties and to authorize or make recommendations regarding negotiation, arbitration, litigation and/or any other process for their resolution and to authorize the settlement thereof.

(j) To determine and act upon the various matters, expressly or impliedly contained in this Agreement, which require decision by the Policy Committee.

(k) To take all reasonable steps as are within its power to safeguard the interests of the Joint Venture in the event of a dispute between the Joint Venturers.

(l) To determine rental rates not specifically set out in this Agreement for equipment or property owned by the Joint Venturers and made available for use on this Project. Any equipment owned by third parties will be invoiced to the Joint Venture at actual rental costs. All efforts will be made to procure reasonable rates.

(m) To make decisions and implement changes as necessary to ensure that the work allocations as detailed in Section 5, above, are maintained.

6.10. Policy Committee Not Chargeable - The activities of members of the Policy Committee in connection with the Program shall not be chargeable by the Joint Venturers to the Joint Venture or to the Client, unless otherwise determined by the Policy Committee.

6.11. Appointment of Program Manager - The Program Manager shall be the best available person at the time, as appointed by the Policy Committee. Should one Joint Venturer appoint the Program Manager, the other Joint Venturer shall appoint the Deputy Program Manager. TMG and Delcan may replace the Program Manager and Deputy Program Manager, respectively, at any time by agreement of the Policy Committee. The Program Manager shall be an employee of TMG. The Deputy Program Manager shall be an employee of Delcan.

6.12. Duties of Program Manager - The day to day management of the Program and the Contract shall be conducted by and under the direction of the Program Manager who shall be accountable to the Client, on the Joint Venture's behalf, for all matters related to the Program. The Program Manager shall have those powers delegated to him/her by the Policy Committee, which powers and responsibilities may include, but may not be limited to, the following:

(a) Organize, direct and coordinate the Client relations, technical activities and business functions necessary for the effective execution of the Contract in accordance with the management policies established by the Policy Committee.

(b) Control budgets, schedules, quality, invoicing, collections and staffing.

(c) Make the selection of all Program staff, subject to acceptance of such staff firstly by the Policy Committee and secondly, after such acceptance, by the Client. Program staff will be selected on the basis of the most appropriate qualifications for each position; provided, however, that every attempt will be made to reflect in the staffing numbers the proportions of each Joint Venturer described in Article 5.2. Staff removal from the Program for non-performance or incompatibility will require the agreement of the Policy Committee. The Program Manager is permitted to seek external staff resources only when suitable staff resources are not available through the Joint Venturers within a reasonable period of time from the time that the need is communicated, in writing, to the Policy Committee. The Policy Committee, acting reasonably, shall provide approval in writing. If a response is not received in a reasonable amount of time, the Program Manager shall issue a written warning of its intent to pursue suitable external resources. An initial of list of Project staffing positions and associated billing rates is annexed hereto as Schedule "B"

(d) Decide on an acceptable billing range for each staff position based on the Program budget and shall be accountable to the Policy Committee in this regard. The Program Manager, aided by the Deputy Program Manager, shall approve all Program time charges and expenses and will approve a single monthly Joint Venture invoice prior to its issuance to the Client.

(e) Submit to the Policy Committee such reports as the Policy Committee may require, including, but not limited to, a Program progress report (noting any problem areas), an accounting of Joint Venture revenues and Joint Venture costs, and identifying potential problem areas for resolution between the Joint Venturers.

(f) Have the primary responsibility for liaison and communication with the Client with respect to work on the Program and no Joint Venturer shall meet with, discuss with or provide any information whatsoever to the Client with respect to work on the Program except as authorized or directed by the Program Manager or the Policy Committee.

(g) Establish Program budgets (time and financial) to be approved by the Policy Committee.

6.13. Responsibilities of Joint Venturers - Each Joint Venturer, through its Representative, shall be responsible to the Program Manager for the quality of services provided by its staff members for all work performed on the Program.

6.14. Personnel, Facilities and Expenses - The Joint Venturers shall make available to the Joint Venture such part of their organization and facilities as may be reasonably necessary in furtherance of the prompt and efficient performance of the Contract, and each of the Joint Venturers agrees to furnish an appropriate share, reflective of the proportions described in Article 5.2, of the principal key personnel as may be required for the performance of the Contract as requested by the Program Manager and approved by the Policy Committee.

6.15. Key Personnel - Key personnel, designated as such by the Policy Committee, who are assigned to the Joint Venture shall not be subject to recall or assignment to other work without the prior consent of the Policy Committee. Specific portions of the work may be assigned to a Joint Venturer for performance in the home office or a branch office of such Joint Venturer subject to the prior approval of the Program Manager.

6.16. Assignment of Work - Performance of any portion or all of the work connected with the Joint Venture shall be assigned, in accordance with the policies established by the Policy Committee, by the Program Manager to personnel employed by the Joint Venturers or assembled by the Joint Venture. Any work assigned to the Joint Venturers shall be open to inspection by the Policy Committee or the Program Manager at all reasonable times.

6.17. Documents - All letters, drawings, diagrams and work products prepared in connection with the Contract and submitted to the Client or to other organizations which are not parties to this Agreement shall bear the names of the Joint Venturers in a form specified by the Policy Committee. Each Joint Venturer shall have access to work carried out by the other in connection with the Program, insofar as necessary in the furtherance of its services under the Contract. Copies of all final documents submitted to the Client will be made available to each Joint Venturer. All documentation shall be treated in a confidential manner as required by the Contract and this Agreement.

Pertinent records of the Joint Venture will be stored for a minimum period of seven (7) years beyond termination of the Contract, or for such period of time as determined by the Policy Committee. The method, location, expense, and access of stored records shall be mutually agreed by the Policy Committee

6.18. Contracts and Commitments - All contracts and commitments to be entered into by or on behalf of the Joint Venture (including contracts providing for services by the Joint Venture to the Client) must be approved by the Program Manager and the Policy Committee.

7. FINANCIAL

7.1. Contributions - If the Program Manager recommends, and the Policy Committee agrees, that Contributions are required by the Joint Venture, the Joint Venturers agree to contribute in proportion to their Interests to the Joint Venture in such amounts and at such times as deemed reasonably necessary by the Policy Committee.

7.2. Disproportionate Contribution - If a Joint Venturer fails or is unable to contribute its proportionate share as required by Article 7.1 within 15 days of the date such contribution is due as determined by the Policy Committee, then, without prejudice to any remedy or right of enforcement of the other Joint Venturer, such other Joint Venturer, may, but need not, furnish the missing funds or any part thereof. After any such default by a Joint Venturer in contributing its proportionate share, and whether or not another Joint Venturer has or proposes to furnish the missing funds or any part thereof, any reimbursement for its services or personnel or any right to participate in any income of

the Joint Venture shall be applied to the relevant shortfall in funds in order to reimburse the Joint Venture or the other Joint Venturer, .

7.3. **Loans** - The Joint Venturers acknowledge that it is their intention that the Joint Venture be solely financed by the Joint Venturers hereto in proportion to their respective Interests and that the Joint Venture shall not arrange or obtain any loan or debt financing from any third party.

7.4. **Banking** - All contributions to the Joint Venture and all other funds received by the Joint Venture shall be deposited in the name of the Joint Venture in a bank and branch to be determined by the Policy Committee. A secondary account shall be established and designated solely to receive all payments from the Client (hereafter "Client Account"). Such particulars as the name of the account, the bank and branch, shall be determined by the Policy Committee.

Each Joint Venturer may be required to contribute an initial capitalized amount to the Joint Venture Bank Account in the following proportion, as recommended by the Program Manager and approved by the Policy Committee:

The McKissack Group, Inc.	65%
Delcan Corporation	35%

(a) No Joint Venturer shall have the right to withdraw its capital Contributions or demand or receive the return of its capital Contributions or any part thereof, except as otherwise provided in this Agreement.

(b) The Joint Venture shall not be personally liable for the return of capital Contributions or any part thereof, except as otherwise provided in this Agreement.

(c) The Joint Venture shall not owe interest on capital Contributions of any Joint Venturer.

(d) The capital Contributions shall be used only for expenses:

(i) Not reimbursed by the Client
(ii) Deemed allowable to the Joint Venture including but not limited to the following:

- Project personnel at the rates agreed upon and reimbursed from the project,
- Living expenses for project personnel while traveling in connection with project duties,
- Auto mileage reimbursement will be at the rate reimbursable by the project,
- Other reasonable expenses and compensation, as approved by the Policy Committee.
- Periodically the Policy Committee will review the funding requirements needed by the Joint Venture to cover Joint Venture costs not reimbursed by the client. Any excess funds will be distributed to the Joint Venturers in a proportion equal to the Interests of the Joint Venturers.
- At the conclusion of the contract all remaining monies in the account will be distributed to the Joint Venturers in a proportion equal to the Interests of the Joint Venturers.

Withdrawals of such funds shall be in such form and by such persons as the Policy Committee shall designate, and from time to time direct. All checks will require two signatures, with one signature from designated TMG staff and one signature from designated Delcan staff. In any event and without limiting other designations or directions which may be made by the Policy Committee, the Program Manager shall have signing authority, when co-signing with one other individual designated or directed by the Policy Committee for amounts less than $1,500.

7.5. **Reimbursement of Joint Venturers for Payroll and Expenses** - Each Joint Venturer shall be entitled to receive from the Joint Venture an amount equal to one hundred percent (100%) of expenses of that Joint Venturer's contribution of staff and expenses to the Invoice Amount, provided payment has been received from the Client. If partial payment of an Invoice Amount is made by the Client, then each Joint Venturer shall be entitled to receive the amount of the fee Invoice Amount attributable to that Joint Venturer and paid by the Client, plus any expenses attributable to that Joint Venturer and paid by the Client.

The Joint Venture will invoice the Client monthly based on time sheets submitted to the Joint Venture office by employees of the Joint Venturers engaged on the Program or on an agreed schedule for fixed price work. Each Joint Venturer shall invoice the Joint Venture on a regular basis but not more frequently than once monthly for the amount it is entitled to receive in accordance with this Agreement. The Joint Venture shall pay the Joint Venturers the amounts to which they are entitled and for which they have invoiced the Joint Venture within 10 calendar days of receipt of payment from the Client.

7.6. Payments of funds from the Joint Venture Account shall only be made by McKissack. Its designated personnel shall have signing authority on the account to make such withdrawals/payments as required to a maximum bank limit of ten thousand dollars ($10,000), upon prior approval by a Delcan authorized person, as designated by Delcan.

Where the Joint Venture Account requires additional funds to maintain the capitalized amount, McKissack shall submit to Delcan a summary of the account and a request for Delcan's portion of the additional funds needed to top-up the account. The statement will also indicate McKissack's proportionate share to top-up the account. Delcan's designated personnel will indicate its approval of the top-up by signing the summary document. The additional funds will either be provided by check from the Client Account or each Joint Venture partner shall provide the additional funds. Such a determination shall be made at the time that such top-up of funds are requested.

McKissack shall prepare and provide statements each month to Delcan showing the activity of the Joint Venture Account.

7.7. The Client Account shall be used to make payment to the Joint Venturers and the Joint Venture's sub-consultants for work invoiced to and paid by the Client. Such payments shall be made by check, and all checks will require two signatures, with one signature from designated McKissack staff and one signature from designated Delcan staff. Alternatively, such payments may be made by wire transfer where one Joint Venturer shall hold responsibility for establishing the transfer, and the other Joint Venturer shall hold responsibility for establishing the transfer, and the other Joint Venturer shall be responsible for releasing such funds through the transfer.

7.8. **Non-Authorized Charges** - A Joint Venturer shall not make any charges against the Joint Venture for any ordinary expenses or for time or monies which are not eligible for the reimbursement by the Client and which may be expended in connection with the performance of the Contract by any of its officers or employees, including its Representative and Alternate, except such officers or employees as are authorized and directed by the Policy Committee.

Any salaries, wages, expenses, payroll burden, head office overhead percentage mark-ups or any other non-billable charges, other than reasonable administration and book-keeping expenses of TMG, as agreed between the Joint Venturers in writing from time to time charged to the Joint Venture by a Joint Venturer, which is not paid by the Client, must be approved by the Policy Committee. Each Joint Venturer shall use reasonable effort to minimize the expenses of the Joint Venture.

7.9. **Equipment** - Equipment owned by a Joint Venturer may be rented to the Joint Venture at reasonable rental rates approved by the Program Manager for items paid by the Client and by the

Policy Committee for items paid by the Joint Venture. Additional equipment required for the performance of the Contract may be rented or leased by the Joint Venture at rates approved by the Policy Committee.

7.10. Property of the Joint Venture - Unless specifically required to be furnished under the Contract, no furniture, equipment or industrial facilities or other items of a capital nature will be purchased by the Joint Venture, nor will the cost of such facilities or capital items be charged to the Joint Venture, without the approval of the Policy Committee. However, to the extent that such items are acquired, the Joint Venturers shall have an undivided interest in all equipment, machinery, tools, supplies and materials and all other property purchased, acquired or developed by the Joint Venture. Upon completion of the Contract or at such time or times as any of such equipment, machinery tools, supplies and material or other property is no longer needed by the Joint Venture, such property shall be either (a) divided proportionally between the Joint Venturers based on each Joint Venturer's Interest, or (b) disposed of otherwise, in each case as determined by the Policy Committee. Notwithstanding the foregoing provisions of this Article 7.10, if the Joint Venture acquires or any Joint Venturer develops or itself acquires any intellectual or industrial property rights of any kind or nature in connection with the Program or the Contract, any such rights acquired by the Joint Venture shall be treated under this Article 7.10 as if included in "other property" above. Any such rights developed or acquired by any one of the Joint Venturers but not on behalf of the Joint Venture shall be and remain the property of that Joint Venturer and the other Joint Venturer shall have no right, title or interest in any such intellectual or industrial property rights and there shall be no requirement to dispose of such rights.

8. INSURANCE AND LIABILITIES

8.1. Insurance - Insurance shall be arranged by each Joint Venturer, at its own cost, or as may otherwise be determined by the Policy Committee, both as required by the Contract with the Client and as the Policy Committee regards as prudent and commercially reasonable.

The Joint Venturers individually agree to add the Joint Venture as a named insured on each respective policies for the automobile, workers' compensation, general liability and umbrella coverage with regard the work under Port Authority Agreement number 19980 and with regard to the professional liability, the Joint Venture shall be named on each respective Venturer's policy for its own interest only with respect to the aforementioned Port Authority contract and to otherwise comply with the insurance requirements of the Port Authority.

Notwithstanding any provision in this Agreement to the contrary, under no circumstances shall any Joint Venturer be liable to another Joint Venturer for any damages to the extent the other Joint Venturer has received insurance proceeds therefor. In the event any Joint Venturer has a claim under any insurance, each Joint Venturer agrees to execute and deliver any and all documents reasonably necessary to effectuate prompt and satisfactory settlement. The proceeds of any insurance claim will be used to reimburse the Joint Venturer incurring such loss.

8.2. Liabilities and Indemnification – To the extent permissible under the law, each Joint Venturer undertakes to protect, indemnify and hold harmless the other Joint Venturer and the Joint Venture against any and all claims for loss or damages, penalties, liabilities or other obligations (including costs) of any nature which may be made against or suffered by such other Joint Venturer or the Joint Venture by reason of any negligent act, omission, neglect or failure to act of such first-mentioned party or of anyone for whom such first-mentioned party is at law responsible, to the extent that such losses or damages, penalties, liabilities or other obligations (including costs) are not covered by the policies of insurance, if any, arranged by the Joint Venture.

9. TERMINATION

9.1. Termination of the Joint Venture - The Joint Venture shall, unless otherwise agreed, terminate upon the completion and final acceptance or sooner termination of the Contract, as detailed in

Articles 9.3 and 9.4, and the accounting and discharge of the obligations of the Joint Venturers each to the other as provided herein, as further detailed in Article 9.2. This Agreement shall not be interpreted or construed so as to create any joint venture or other relationship surviving the termination hereof between the Joint Venturers and shall not limit the Joint Venturers in their right to carry on their individual business for their own benefit. The obligations of the Joint Venturers under Articles 6, 8, 9, 10, 11, 12, 13,and 14 shall survive the termination of this Agreement for any reason and shall continue in full force and effect notwithstanding such termination.

9.2. **Winding up** - Upon completion of the Contract, TMG shall render a true and correct accounting to the individual Joint Venturers of all expenses incurred on account of the performance of the Contract and all monies received as a result thereof, and upon completion of the Contract the Joint Venturers shall settle and adjust all accounts in connection with their performance thereof and shall pay, each to the other, such sums as will result in each Joint Venturer receiving, respectively, a share in the net income of the Joint Venture, in proportion to the fees billed to the Program by each Joint Venturer in connection with the provision of the Services (i.e. excluding accounting and other administrative services) reimbursement of its proper expenses incurred in the performance of its part of the Contract, in accordance with Schedule A. Thereupon this Agreement and the Joint Venture shall terminate; provided, however, that if it be then determined that there exists any contingent liability arising out of this Agreement or in connection with the Contract, a reasonable special fund shall be set aside in escrow as a reserve, to pay the same or the Policy Committee shall make such other arrangements as they may agree to be necessary, considering the nature of the contingent liability, and the Joint Venturers shall not be entitled to their share of such fund until the contingencies are resolved, at which time the Joint Venturers' shares thereof shall be paid to them.

9.3. **Earlier Termination of Relationship** - Subject to Article 9.2 hereof, this Agreement and the Joint Venture shall terminate forthwith upon the happening of one or more of the following events:

(a) The Joint Venturers shall agree in writing to terminate this Agreement.

(b) Any stage in the work on the Program under the Contract or any part thereof has been completed, no other stage or part of the Contract is then in force, the Joint Venture is not then engaged in any work under either any part of the Contract or in the preparation of any proposal for submission to the Client for a subsequent part of the Contract, and the Policy Committee determines that there is not a reasonable likelihood of the Joint Venture being awarded another part of the Program.

(c) If after execution of the Contract, all of the following have occurred: (i) completion of all Services; (ii) receipt of all compensation due and owing the Joint Venture; (iii) fulfillment of all Contract responsibilities and obligations (including warranties); (iv) resolution of all known liabilities arising out of the Contract to the Client or any third parties; (v) resolution of all known liabilities and disputes between the Joint Venturers under this Agreement; and (vi) cancellation of all guarantees and bonds (if any).

(d) If after execution of the Contract, either Client terminates the Contract or the Joint Venturers and Client mutually agree to terminate the Contract and all of the following have occurred: (i) receipt of all compensation due and owing the Joint Venture; (ii) fulfillment of all Contract responsibilities and obligations (including warranties); (iii) resolution of all known liabilities arising out of the Contract to the Client or any third parties; (iv) resolution of all known liabilities and disputes between the Joint Venturers under this Agreement; and (v) cancellation of all guarantees and bonds (if any).

9.4. **Other Causes for Termination** - The participation of a Joint Venturer in the Joint Venture shall terminate forthwith upon the happening of one or more of the following events:

(a) The Board of Directors of a Joint Venturer shall have taken formal action for the dissolution or liquidation of such Joint Venturer or the winding up of its affairs whether or not such action is subject to the vote or assent of the shareholders of such Joint Venturer.

(b) Joint Venturer shall have:

(i) become unable to pay its debts generally as they become due;

(ii) been the subject of a petition filed pursuant to bankruptcy legislation;

(iii) made an assignment for the benefit of its creditors;

(iv) consented to the appointment of a receiver of itself or of the whole or any part of its property; or

(v) a liquidator, receiver, trustee or encumbrancer shall have taken charge or possession of any of the business or assets of a Joint Venturer,

provided, however, that if one or more of the events described in this Article 9.4 shall have occurred, this Agreement shall continue in force upon written agreement to that effect executed by the proper officers or representatives of the Joint Venturers.

9.5. Distribution Upon Earlier Termination of Relationship - In the event that the participation of a Joint Venturer in the Joint Venture terminates by reason of any event specified in Article 9.4, the Interest of such Joint Venturer shall, upon the election of the remaining Joint Venturer, be deemed to have been transferred to such remaining Joint Venturer, without the requirement for the payment of any consideration therefor (subject to the provisions of this Article 9.5) and the Joint Venturer whose participation has been so terminated shall at such date be disqualified and shall have no further interest in the Contract or the work to be performed thereunder, or in the Joint Venture.

Upon termination of the Contract, or six (6) months after termination of the joint venture relationship, whichever is sooner, or of any additions to or extensions thereof, and the collection of all monies due thereunder, the remaining Joint Venturer shall account to the disqualified Joint Venturer the amount of money or working capital contributed or advanced by such disqualified Joint Venturer, increased or decreased by its proportionate share in the losses or gains computed to the date of such disqualification, less any outstanding claims, liabilities or other monies in dispute. The gain or loss computed as of any such date shall be determined in proportion to the respective Interests of the Joint Venturers.

10. DISPUTE RESOLUTION

10.1. Dispute Resolution - All matters in dispute between the Joint Venturers in relation to this Agreement, including any matters upon which the panel of presidents referred to in Article 6.6 hereof are unable to agree upon, shall be submitted, upon agreement between the parties to mediation in accordance with the Construction Industry Mediation Rules of the American Arbitration Association then in effect. The location of the mediation will be the location of the Mediator's Office, unless the Joint Venturers agree otherwise. The Joint Venturers agree to conclude mediation within 30 days of filing the request for mediation with the other Party. The principal negotiators will be the Individuals who executed this Agreement.

10.2. Arbitration - In the event that mediation fails, the dispute will be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect, unless the Joint Venturers mutually agree otherwise. A written demand for arbitration will be filed with the other Party within a reasonable time after the dispute has risen, but in no event, later than the applicable statute of limitations for a legal or equitable proceeding would have run. The location of the arbitration proceeding will be as agreed by the Joint Venturers.

10.3. Selection of Arbitrator - If the Joint Venturers do not agree upon a single arbitrator within 30 days of the first attempt to select an agreeable arbitrator, each side to such dispute shall, within 15 days of the end of such 30-day period, appoint one independent individual as its appointee to an arbitration panel and the appointees of the several sides to such dispute shall select an independent arbitrator to chair the arbitration panel. The chairperson so appointed shall not vote on any matter except in the event of a deadlock, in which case the chairperson shall have the casting or deciding vote.

10.4. Deemed Acceptance of Arbitrator - If one or more of the sides to such dispute does not so appoint an appointee to such panel within the 15-day period noted, such side to the dispute shall be deemed to have agreed to the resolution of such dispute by the arbitrator or arbitrators appointed by the other side to such dispute.

10.5. Award - The award and determination of such arbitrators shall be final and binding upon the Joint Venturers and their respective successors and permitted assigns as though rendered by a court of law and confirmed and enforceable in any court having jurisdiction over the same. The parties expressly waive their right, if any, to a trial by jury of any claims or disputes hereunder.

10.6. Authority of Arbitrators - The arbitrator(s) shall not have any authority to alter or change any provision of this Agreement or to substitute any new provision in lieu thereof or to make any award contrary to the terms or the provisions of this Agreement.

10.7. Continued Performance - Unless otherwise agreed, the Joint Venturers will continue to perform the Services and maintain the approved schedule during any dispute resolution proceeding provided that the Client is making payments to the Joint Venture in accordance with the Contract with the Client. The Joint Venturers agree that, where possible and practicable, other parties necessary to resolve a dispute will be parties to the same arbitration proceeding, and appropriate provision will be made in all contracts relating to the Services to provide for such consolidation.

11. NOTICES

11.1. Deemed Delivery - Any notice, including any notice of a change of address for giving notice, required to be given hereunder shall be in writing and shall be sent by registered mail, return receipt requested, or letter delivered and shall be deemed to be received by the party to whom it is addressed on the day on which it is delivered.

11.2. Address for Notice - Any such notice or other communication shall be effectively given to the Joint Venturers at their respective offices, addressed as follows:

(i) if to TMG:
150 West 30th, Suite 1200
New York, NY 10001

Attention: Michael Kaleda
Fax No.: 212-760-4259

(ii) if to Delcan:
8618 Westwood Center Drive, Suite 450
Vienna, VA 22182

Attention: Brian Stearman
Fax No.: 703-752-6064

12. GOVERNING LAW, ATTORNMENT

12.1. Governing Law - This Agreement shall be governed by and construed in accordance with the laws of the State of New York. For the purposes of all legal proceedings, this Agreement shall be deemed to have been performed in New York and the courts of New York shall have jurisdiction to entertain any action arising under this Agreement. Each Joint Venturer hereby attorns to the jurisdiction of the courts of the State of New York.

13. CONFIDENTIAL INFORMATION

13.1. Confidentiality - During the performance of the work under the Contract, it may be necessary for a party to disclose to another party certain information of a technical and/or commercial nature which the disclosing party deems confidential (hereinafter referred to as "Confidential Information"). The parties agree that, when such Confidential Information is disclosed to them whether in writing or otherwise and designated as "confidential", they will not disclose the same to third parties or use such Confidential Information other than for the performance of the work under the Contract and they will take reasonable steps to protect such confidential information from disclosure, except such Confidential Information which:

(a) at the time of disclosure by the disclosing party is known to the receiving party or is in the public domain;

(b) after disclosure by the disclosing party becomes part of the public domain through no violation of this nondisclosure commitment;

(c) was acquired from a third party, provided that the receiving party does not know or have reason to know that such information was acquired by such party, directly or indirectly, from the disclosing party under an obligation of secrecy; or

(d) is required to be disclosed by law.

13.2. Term of Force - The provisions of this Article 13 shall be in force during the period the Services are being performed and shall remain in force for a period of two (2) years from the substantial completion of such services or longer if Contract with Client so requires.

13.3. Intentions of Parties - For the purposes of this Article 13, disclosures made to the receiving party under this Agreement, which are specific, shall not be deemed to be within the foregoing exceptions merely because they are embraced by general disclosures which are in the public domain or in the possession of the receiving party. In addition, any combination of features shall not be deemed to be in the foregoing exceptions merely because the individual features are in the public domain or in the possession of the receiving party, unless the combination itself and its principle of operation are in the public domain or in the possession of the receiving party.

14. GENERAL

14.1. Amendment - This Agreement may be modified or amended in writing as required. Amendments shall be initiated by the Joint Venturers or by the Policy Committee and executed by an officer of each Joint Venturer.

14.2. Intellectual Property - This Agreement does not expressly or impliedly grant to any Joint Venturer the ownership or the right to use the intellectual property owned or controlled by any other Joint Venturer. All copyrights, design rights, patents, trademarks, trade secrets and other intellectual property rights which a Joint Venturer owns or has prepared prior to the date hereof shall remain the property of such Joint Venturer and no other Joint Venturer shall have rights with respect thereto. All intellectual property rights in all data prepared or developed by the Joint Venture shall be jointly owned by the Joint Venturers with each Joint Venturer granting a non-exclusive, irrevocable, royalty-free license to each Joint Venturer to use, copy or modify such data. All software, systems and know-how made available by one Joint Venturer shall remain the property of

such Joint Venturer. For greater certainty, Delcan retains all rights to its Quality Management Oversight System for Transit Operations (QMost), and no rights in QMost are granted to TMG pursuant to this Agreement or the Contract, except as expressly stated by Delcan in writing.

14.3. Solicitation of Employees - The Joint Venturers agree that for a period of one (1) year following the date first set out above, neither of them shall directly or indirectly: (i) solicit the employees of the other Joint Venturer to become an employee of the soliciting Joint Venturer or any third party; (ii) hire any employee of the other Joint Venturer for the purpose of providing services in relation to the Program unless otherwise agreed by the Policy Committee; or (iii) where an employee of the other Joint Venturer is hired without contravening the requirements of this Article 14.3, subsequently assign such employee to provide services in relation to the Program. For the purposes of this Article 14.3, references to an "employee of a Joint Venturer" shall include current employees as well as persons employed by such Joint Venturer within the preceding twelve (12) months.

14.4. Assignment of Interest - Except to a Joint Venturer's Affiliates, no Joint Venturer shall sell, assign, transfer, mortgage, pledge, or in any manner encumber its interest in the Joint Venture, or in the Contract or in any other instrument or obligation of the Joint Venture, or in any of the proceeds from the Contract without the approval of the Policy Committee. Subject to the foregoing provisions, this Agreement shall inure to the benefit of, and be binding upon the Joint Venturers, their successors, trustees, assigns, receivers, and legal representatives.

14.5. Subcontracting - No portion of the Services to be performed under the Contract shall be assigned or subcontracted to any person, firm, or corporation (other than the Joint Venturers or their Affiliates), without the prior approval of the Policy Committee. Purchase orders and subcontracts entered into by or on behalf of the Joint Venture for the procurement of goods or services shall, at a minimum, contain appropriate flow-down language reflecting the terms and conditions of the Contract. When one Joint Venturer enters into an approved sub-contract on behalf of the Joint Venture for work, to be performed under the Contract, the obligations of the Joint Venture are implied.

14.6. Third Party Beneficiaries - Nothing in this Agreement shall create, or be construed to create, any third party beneficiary rights in any entity or person not a signatory to this Agreement. This Agreement has been and is made solely for the benefit of the Joint Venturers and their respective successors and permitted assigns to the extent provided in this Agreement and no other party shall acquire or have any rights, express or implied, under or by virtue of this Agreement.

14.7. Publicity - The Policy Committee shall establish a protocol with respect to public relations and media contacts related to the Program, this Agreement or the Contract. The Joint Venturers agree to comply, and to require their respective employees and subconsultants or subcontractors to comply, with such protocol. No Joint Venturer shall issue any marketing materials and the like, press releases or statements to the press or conduct media interviews in contravention of such protocol without the prior consent of the Policy Committee.

14.8. Ethical Business Practices - Each Joint Venturer agrees that it shall comply with all applicable laws. Each Joint Venturer agrees that it has not made and will not make payments of anything of value either directly or indirectly to any person (whether a government official or private person) for the purpose of illegally or improperly assisting the Joint Venture. Each Joint Venturer is committed to abiding by ethical business practices.

14.9. Pledging of Credit - No Joint Venturer shall be entitled to borrow money on behalf of another Joint Venturer or the Joint Venture nor to use the credit of another Joint Venturer for any purpose. No Joint Venturer shall be able to bind another Joint Venturer to any obligation without the Joint Venturer's written consent.

14.10. No Waiver - A Joint Venturer's failure to exercise its rights hereunder or to demand the obligations owed to such Joint Venturer by the other Joint Venturer shall not constitute a waiver thereof.

14.11. Further Assurances - Each Joint Venturer agrees to undertake such further acts and to execute and deliver such additional instruments and documents as may be reasonably required in furtherance of the intent of this Agreement.

14.12. Severability - The provisions of this Agreement shall be deemed severable, and the invalidity or unenforceability of any provision shall not affect the validity and enforceability of the other provisions. If any provision of this Agreement is unenforceable for any reason, that provision shall be appropriately limited and given effect to the extent that it may be enforceable.

14.13. Headings - All headings and captions in this Agreement are for convenience only and are not intended to define, limit, extend or describe the meaning or intent of any provision of this Agreement.

14.14. Counterparts - This Agreement may be executed in any number of counterparts, and by the Joint Venturers in separate counterparts, each of which shall be deemed to be an original and all of which when taken together constitute one and the same Agreement.

IN WITNESS WHEREOF the Joint Venturers have executed this Agreement as of the date and year first written above.

THE MCKISSACK GROUP, INC.

By: _____
Name: Michael J. Kaleda
Title: Executive Vice President

DELCAN CORPORATION

By: _____
Name: Brian J. Stearman
Title: President

SCHEDULE A

BASIS OF REMUNERATION

1. All fees incurred by Joint Venturer staff in the performance of services under this contract that are eligible for reimbursement by the Client shall be charged to the Joint Venture at one hundred percent (100%) of the billing rate for the individuals as approved by the Client.

2. Cost for staff (pre-approved in writing by the Policy Committee) providing approved services to the Joint Venture that are not eligible for reimbursement by the Client, shall be charged to the Joint Venture on a cost recovery basis (with cost recovery defined as actual salary plus 35% to cover payroll and benefits).

3. All recoverable expenses incurred by a Joint Venturer in the performance of the services under the Contract shall be charged to the Joint Venture at cost to such Joint Venturer.

4. Any expenses incurred by a Joint Venturer which are not reimbursable to the Joint Venture under the Contract will not be charged to the Joint Venture without the prior approval of the Policy Committee.

5. Expenses incurred by a Joint Venturer in the promotion of the Joint Venture will be absorbed by the party incurring such expenses unless otherwise pre-approved by the Policy Committee.

6. Certain expenses, such as insurance premiums for the Joint Venture, accounting, supplies, etc. which are not reimbursable under the Contract shall, with the pre-approval of the Policy Committee, be a direct cost to and be paid by the Joint Venture.

09-009c

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   _____

2. Business Address (to receive mail for this RFP):

   _____

   _____

3. Business Telephone Number: _____
4. Business Fax Number: _____
5. Firm website: _____
6. Federal Employer Identification Number (EIN): [redacted]_____
7. Date (MM/DD/YYYY) Firm was Established: _____/_____/_____
8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   _____

   _____

9. Officer or Principal of Firm and Title:

   _____

10. Name, telephone number, and email address of contact for questions:

    _____

    _____

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? □ Yes □ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Christopher O. Ward
Executive Director

Certified

by

Office of Business & Job Opportunity

The McKissack Group, Incorporated

Certificate PA-24587

This certificate acknowledges that the above named firm is recertified as a **Minority/Woman-owned Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: March 26, 2009

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: March 26, 2014

Form: 6/10/93 RAL

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

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2. Business Address (to receive mail for this RFP):

   _____

   _____

3. Business Telephone Number: _____
4. Business Fax Number: _____
5. Firm website: _____
6. Federal Employer Identification Number (EIN): _ [redacted]_____
7. Date (MM/DD/YYYY) Firm was Established: _____/_____/_____
8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   _____

   _____

9. Officer or Principal of Firm and Title:

   _____

10. Name, telephone number, and email address of contact for questions:

    _____

    _____

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? □ Yes □ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

Attachment A

Company Profile – Affiliates

NATENG Technology Group Inc. *(owns 100% of Delcan Corporation)*
650 E. Algonquin Road
Suite 104
Schaumburg, IL 60173
EIN: [redacted]

Delcan Limited Inc. *(Delcan Corporation owns 100% of Delcan Limited Inc.)*
650 E. Algonquin Road
Suite 104
Schaumburg, IL 60173
EIN [redacted]

InterVISTAS *(Delcan Corporation owns 50% of InterVISTAS)*
8618 Westwood Center Drive
Suite 450
Vienna, VA 22182
EIN: [redacted]

McKissack+Delcan Port Authority RFP Compliance Matrix

Port Authority Technical Proposal Requirements	McKissack + Delcan Response
I. Proposal Requirements:	
A. A minimum of five (5) years firm experience in the planning and design of rail transportation facilities	✓ Complied
B. Firm and proposed senior staff experience with a minimum of three (3) projects, within the past five (5) years in managing rail capital programs which includes multiple sub-projects valued at more than $50 in construction cost in aggregate.	✓ Complied
II. Proposal Format Requirements:	
A. Proposal shall be no more than 26 pages single sided or 13 pages double-sided using 12 point or great font size not including resumes. Each resume shall be 2 page maximum, single-sided, or 1 page maximum, double sided, using 12 point or greater font size. Proposal pages shall be numbered and bound, or in a 3 ring binder, with "Your Legal Firm Names", and RFP Number 19980 clearly indicated on the cover.	✓ Complied
B. Each section of the Proposal shall be separated with a tab divider that is labeled in accordance with the letter of the requirements.	✓ Complied
C. All proposals must be delivered in a sealed envelope and/or package addressed to: The Port Authority of New York and New Jersey, One Madison Avenue, 7th Floor, New York, NY 10010, Attention: RFP Custodian. Submit one (1) reproducible original and five (5) copies, along with one (1) compact disc copy or the Proposal for review.	✓ Complied
D. Use FULL LEGAL NAME WITHOUT ABBREVIATIONS on return address and any information submitted on the compact disc, as well as on the reproducible original and each copy of the Proposal.	✓ Complied
E. Proposal should be received no later than 2:00 pm on January 4, 2010. The cover of the submittal must include the RFP Number and RFP title.	✓ Complied
III. Submission Requirements	
Section A. Agreement on Terms and Discussions Include in the front of proposal a copy of Attachment B signed by and officer of the company.	✓ Complied
Section B. Transmittal Letter Transmittal Letter on letterhead, signed by an authorized representative demonstrating compliance with each of the aforementioned "Proposer Requirements" listed above. Letter should include: 1. A statement indicating whether the Consultant is proposing as a single entity or joint venture. If a joint venture, submit all information required for a single entity for each participant in the joint venture. 2. Submit a copy of any written agreement, or understanding, which exists between each party to the joint venture. 3. Complete a copy of Attachment C	✓ Complied

Port Authority Technical Proposal Requirements	McKissack + Delcan Response
Section C. Cost 1. The "multiplier" including a breakdown of said multiplier, indicating all of the multiplier's components. 2. Billing rates for partners and principals expected to work on the project.	✓ Complied
Section D. Firm Qualifications and Experience 1. Provide a list of entities for which similar services have been provided. Provide a list of the projects and a contact.	✓ Complied
Section E. Staff's Qualifications and Experience 1. Resumes for the personnel who will be responsible for the performance of the requested services, clearly indicating their relevant experience and specific area of expertise.	✓ Complied
Section F. Technical Approach 1. Detailed description of the proposed technical approach for performance of the required services for each task in Attachment A.	✓ Complied
Section G. Management Approach 1. Describe in detail the management approach which should include proposed management structure for performing the required services.	✓ Complied
Section H. Subconsultants 1. Intended subconsultants, terms and conditions for their compensation (including multiplier), their MBE/WBE status and the technical qualifications of their key personnel including resumes.	✓ Complied
Section I. M/WBE Participation 1. Submit details on how you intend to meet M/WBE goals.	✓ Complied
Section J. Affiliates 1. Include a complete list of firm's affiliates.	✓ Complied
Section K. Contract Exceptions 1. Contract exceptions should be set forth in a separate letter included with response to RFP.	✓ Complied
Section L. Conflict of Interest 1. Include a statement indicating any perceived or actual conflict of interest and the nature of the conflict.	✓ Complied

C. Cost

We have furnished below a breakdown of requested financial data as requested in the RFP for the two members of the Joint Venture – McKissack Group and Delcan Corporation as well our sub-consultant, PACO Group in this section.

The McKissack Group-

G & A Rate

Payroll Taxes:	16.7%
Workman's Compensation	covered by OCIP
Medical Cost	4.8%
Pension	0.4%
401(k) Match	0.5%
Insurance (L/T Disability, Group Life, AD&D)	0.3%
Travel allowance	1.0%
Incentive compensation	1.8%
Training and continuing education	3.0%
Professional dues and licenses	0.4%
Referral fee	0.5%
Vacation / Holiday / Sick Days	15.6%
Total Fringe Benefits	45.0%

McKissack Group Multiplier Information

	Office	Field
Billable Direct Labor	1.00	1.00
Overhead at 100%	1.36	1.00
Subtotal	2.36	2.00
Profit at 10%	0.236	0.20
Total Multiplier	2.59	2.20

The factors that comprise McKissack & McKissack's multiplier include the hourly wage paid to the employee, profit, and overhead costs consisting of the following:

- Company-paid employee coverage for medical & dental insurance
- Company-paid time-off including sick-leave, vacations, paid personal days, holidays, etc.
- Company-paid portion of FICA taxes on behalf of the employee
- Business costs such as rent, utilities, insurance, etc.
- Depreciation of fixed-assets such as company equipment, computers, plotters, software, etc.

Delcan's Indirect Cost Allocations And Multiplier Calculation

Fiscal Year Ended December 26th 2008

	Office	Field
Direct Payroll Base	100%	100%
Audited 2008 Indirect Cost Allocation		
Indirect Payroll	47.0%	47.0%
Fringe Benefits:		
Payroll Taxes	14.5%	14.5%
Vacation/Holiday/Sick Leave	18.1%	18.1%
Severance	0.0%	0.0%
Insurance (i.e. L/T Disability, Group Life, Medical)	5.6%	5.6%
Incentive Compensation	11.0%	11.0%
Total Fringe Benefits	**49.3%**	**49.3%**
Occupancy and Other Fixed Overhead*	10.9%	5.5%
Other Indirect Costs**	53.7%	44.7%
TOTAL INDIRECT COSTS	**160.9%**	**146.5%**

*Includes such items as: Rent, business and occupancy taxes, depreciation, telephone, professional liability insurance, maintenance.

** Includes such items as: Accounting and auditing, professional and legal fees, automobiles, bank charges, proposal expenses, postage and couriers, office supplies, subscriptions and memberships, moving personnel and families, information processing, professional activities, recruitment, training, travel.

Delcan Multiplier Information

	Office	Field
Billable Direct Labor	1.00	1.00
Overhead	1.61	1.46
Subtotal	2.61	2.46
Profit @10%	0.26	0.25
TOTAL MULTIPLIER	**2.87**	**2.71**

The factors that comprise Delcan's multiplier include the hourly wage paid to the employee, profit, and overhead costs consisting of the following:

- Company-paid employee coverage for medical & dental insurance
- Company-paid time-off including sick-leave, vacations, paid personal days, holidays, etc.
- Company-paid portion of FICA taxes on behalf of the employee
- Business costs such as rent, utilities, insurance, etc.
- Depreciation of fixed-assets such as company equipment, computers, plotters, software, etc.

PACO Group Multiplier Information

Based on PACO Group's 2008 FAR Audited Overhead Rate of 150.97% and 10% fee, PACO Group's actual multiplier is 2.76. Their proposed discounted rate is 2.45, which is the rate on file for their current contract with the Authority.

The breakdown of the PACO Group actual multiplier is as follows:

- Direct Labor: 100%
- Fringe/Indirect Labor/Operating Cost: 150.97%
- Profit: 10%
- Actual Multiplier: 2.76

Multiplier that will be applied to this assignment by PACO Group will be 2.45 for both office and field rates.

Hourly Rates of Proposed Personnel

				Applicable Multiplier*	
Staff Name	**Company**	**Proposed Position**	**Hourly Rate**	**Field**	**Office**
Robert McDermott	McKissack	Senior Planning Manager	$82.40	2.20	
Mourad Armanious	McKissack	Plan Coordinator (lead)	$46.15	2.20	
Ralph Drewes	McKissack	Plan Coordinator (secondary)	$64.82	2.20	
Christopher Wahl	Delcan	Field Coordinator (lead)	$84.12	2.71	
Michael Arato	McKissack	Field Coordinator (secondary)	$64.38	2.20	
Keith Skilling	McKissack	Scheduler (lead)	$65.00	2.20	
Carlos Sanchez	PACO	Scheduler (secondary) / Cost Controls Engineer (if required)	$64.38	2.45	
Candy Richardson	McKissack	Cost Estimating Eng. (lead)	$42.25		2.59
Sergey Kogan	PACO	Cost Estimating Eng. (secondary)	$39.23		2.45
Mike Bukata	Delcan	Database Developer (PT)	$54.00	2.71	
Dan White	Delcan	Quality Management Auditor (PT)	$67.28	2.71	
Lori Colangelo	Delcan	Systems Integrator (if required)	$77.00	2.71	
Alfonse Dell'Isola	McKissack	VE/Constructability Specialist (if required)	$75.00		2.59
Martha Parsons	Delcan	Staff Recruiting Specialist (if required)***	$85.00		1.10
Michael Kaleda	McKissack	Lead Officer-in-Charge (Principal)	$125**	N/A	N/A
Brian Stearman	Delcan	Secondary Officer-in-Charge (Principal)	$125**	N/A	N/A

Notes:

* It is assumed that the Senior Planning Manager, Plan Coordinator(s), Field Coordinator(s), Scheduler(s), and Cost Controls Engineer (if required), will be full time located at PATH offices for the duration of their involvement on the project. All other positions and staff are assumed to be mostly working from their company offices and only required part time at PATH offices.

** The rate shown for the two Officers-in-Charge are ceiling rates on chargeable salary.

***The Staff recruiting Specialist is a Delcan contract employee. The rate shown is the individual's contract hourly rate. The office multiplier only indicates an allocation for fee.

All positions noted as "secondary" are assumed to be in addition to equivalent positions noted as "lead", if required by the Program and PATH.

D. Firm Qualifications and Experience

The McKissack+Delcan Joint Venture (McKissack+Delcan) was formed in 2008 for the purpose of strategically pursuing program management/oversight services for transportation clients throughout North America. The team's first contract was for the New York State Metropolitan Transportation Authority (MTA) providing Independent Engineering Consultant (IEC) Services for projects under their 2008-2013 Capital Program, valued in excess of US $20 billion. The Joint Venture went on to secure additional contracts including two (2) for the Port Authority of New York & New Jersey for aviation consulting, and one (1) for the Transportation Research Board (TRB) to assess the effectiveness of passenger and baggage security at U.S. airports. Currently, the McKissack+Delcan Joint Venture is awaiting our next contract with the Federal Transportation Authority's Program Management Oversight (PMO) project, which could provide the Joint Venture with transportation oversight assignments throughout the United States.

The McKissack+Delcan Joint Venture is comprised of two firms, McKissack & McKissack, the oldest minority-owned design and construction firm in the United States, and Delcan Corporation, an international transportation engineering, management and technology consulting firm that has been operating continuously and profitably since its inception in 1953.

McKissack & McKissack (McKissack) is the oldest minority-owned professional design and construction firm in the United States. A family-owned business for more than 100 years, McKissack has been a leader in the planning, design, and construction of more than 6,000 projects, proudly upholding the standards of excellence established by its forefathers.

McKissack is a leading provider of consultancy services for all aspects of rail, and has consistently delivered numerous services for satisfied clients including program/project management, engineering, procurement, construction management, testing/commissioning, and operations and maintenance on rail transit projects throughout the United States. These projects include mass transit networks, high-speed rail, inter-city rail, commuter rail, light rail transit lines and facilities, subways, and multi-modal facilities. McKissack's strength is in its staff of highly skilled and experienced engineers, planners, architects, project and program managers, technical support personnel.

McKissack understands that rail projects can encompass the widest range of disciplines of any infrastructure project, and our matrix resourcing structure ensures the right people are made available for each project. McKissack brings together specialists in rail systems, civil infrastructure, rail operations, tunneling and underground structures, project managers, and safety and assurance advisors. These experts are supported by other members of the McKissack organization from disciplines such as architecture, environment, transportation planning, urban planning, safety/security, and information systems.

McKissack has firmly established Quality Management mechanisms built into the daily regimen for all technical discipline deliverables and management processes. McKissack provides a comprehensive portfolio of services to the transit sector, including:

- Transit Operations and Planning
- Permitting and approvals
- Stakeholder and community liaison
- Transportation engineering
- Civil engineering (roads, utilities, infrastructure)
- Fixed facilities (stations, running structures, yards and maintenance facilities)
- Signal engineering
- Design monitoring and oversight
- Structural engineering (bridges, tunnels)
- Electrical engineering
- Fire/life safety
- Track and alignment engineering
- Traction power, power distribution and OCS
- Communications, SCADA, CCTV, PA, intercom and radio systems
- Program and Project Management
- Risk assessment
- Construction Support

- Value engineering
- Specifications development
- System safety assurance
- Project Controls including budget preparation, cost control and scheduling
- Contracts development
- Construction management, contract administration and general project administration

From major facility construction and rehabilitation to New Start rail lines and system modernizations, McKissack offers extensive capabilities. Our professionals are familiar with the specifications and functions of equipment required for the gamut of transit operations-maintenance facilities, trackwork, signaling, traction power, and communications systems. They are also uniquely qualified in the inspection, testing and equipment start-up requirements necessary for construction management.

Delcan Corporation (Delcan) is an international transportation consulting firm that has fifty-six years of steady growth since its inception in 1953. Delcan has served clients in more than 70 countries. Delcan has been active in the rail transit market since its inception and played a major role in the development and growth of the Toronto Subway system, as well as many other North American heavy rail and light rail transit systems. With over 700 highly skilled and experienced engineers, planners, architects, project and program managers, scientists and technical support personnel, Delcan and its affiliated companies have proven expertise in mass transit networks, high-speed rail, inter-city rail, commuter rail, light rail transit lines and facilities, subways, monorails and rapid bus transit-ways, as well as multi-modal facilities.

Delcan and its affiliated companies provide a comprehensive portfolio of services to the transit sector, including:

- Program and project management
- Project management oversight
- Construction management
- Transit planning
- Operations and maintenance
- Electrical engineering
- Environmental Assessment
- Intelligent transportation systems
- Vehicle technology
- Architecture
- Civil/Structural engineering Fixed facilities (stations, yard and maintenance facilities)
- Fire/life safety
- Track and alignment engineering
- Communications, signaling and traction power
- Fare collection
- Systems engineering and systems integration
- Risk assessment
- Value engineering
- Systems safety assurance
- Testing, commissioning and acceptance
- Quality management and quality management oversight

The depth of experience available has allowed Delcan to become a key player in a number of public mass transit initiatives that have been undertaken in North America in the past few decades. These have included such programs as:

- The recently awarded $2.6 billion Spadina Line Extension (subway) in Toronto, Canada;
- The $2 billion Capital Program for the Toronto Transit Commission
- The ongoing $7.6 billion Denver RTD FasTracks LRT Program;
- The $2.5 billion Red Line Project in Tel Aviv, first of several new transit lines to be developed in this program;
- The $7 billion Rapid Transit Expansion Program in Toronto, Canada that included the award winning $1 billion Sheppard Subway Project;
- The Los Angeles County MTA transit program, and the spin-offs of the Exposition LRT and Pasadena Gold Line LRT projects; and
- The multi-billion dollar Transit City LRT Program in Toronto, Canada that is just being initiated.

Delcan's resource is further complemented by the 5,500+ staff of DHV Group (www.dhv.com), a Netherlands-based consulting firm that is Delcan's strategic alliance partner. DHV is a leading international consulting and engineering firm that

provides management consulting, program and project management, contract management, operational management and design services in the rail and rapid transit industry.

McKissack+Delcan is pleased to partner with PACO Group, Inc. (PACO) who will serve as our sub-consultant on this assignment. We have provided information about PACO in Section H of this proposal.

D.1.The McKissack+Delcan Team Representative Projects

METROPOLITAN TRANSPORTATION AUTHORITY (MTA) INDEPENDENT ENGINEERING SERVICES

PROGRAM/PROJECT MANAGEMENT | COST ESTIMATION | OVERSIGHT OF TESTING & COMMISSIONING | SCHEDULE MANAGEMENT

PREPARE PRESENTATION MATERIALS | SYSTEMS INTEGRATION

The McKissack+Delcan Joint-Venture has been contracted to provide engineering consulting services for the MTA's 2008-2013 Capital Program, a program valued in excess of US $20 billion and that touches on all facets of the transportation industry.

The scope of services encompasses all of the Authority's operating agencies which include: New York City Transit and the FRA-regulated Long Island Rail Road and Metro-North Railroad. McKissack+Delcan is also assuming oversight responsibilities for major capital program projects currently in progress, such as East Side Access and the Second Avenue Subway, which include significant rail transit systems components.

McKissack+Delcan's specific scope includes monitoring numerous rail & transit systems design and construction projects for compliance with project management, budget, schedule, safety, and quality requirements. These projects include new rolling stock procurements, signaling system upgrades (including the introduction of Communications-Based Train Control and Positive Train Control), modernization of operational control centers, various voice, data and video communications and passenger information system improvements, and critical system-wide security enhancements.

Client: Metropolitan Transportation Authority | Ron Saporita, Director Office of Construction Oversight | Phone [redacted]

TORONTO TRANSIT COMMISSION (TTC) CAPITAL PROGRAM - PROJECT MANAGEMENT

PROJECT MANAGEMENT | CONTRACT COORDINATION | COST ESTIMATING | SCHEDULING | PROJECT CONTROLS | SYSTEMS INTEGRATION

Delcan, in joint venture, is providing Project Management Services to the TTC Construction Department. Delcan project managers and controls personnel, operate in an integrated team environment with TTC staff in the implementation of the TTC's $2 billion Capital Program. The program consists of:

- Facility/system upgrades: maintenance and storage yards, electrical and control systems, buildings, mechanical systems, fire ventilation systems;
- Rehabilitations: parking lots, precast tunnel liners, LRT elevated structures, bus garages and carhouses, renovations to shops and office buildings;
- New developments: Union Station New Platform Phase 2, Waterfront - New LRT, and Sheppard Subway extension to Scarborough Town Centre and the Transit City LRT Program.

The Program comprises:

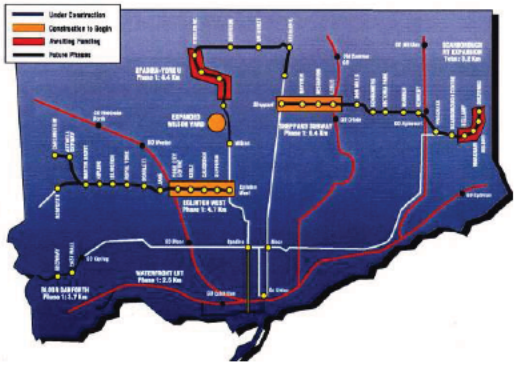
- Project Management of a wide range of capital projects
- Scheduling
- Estimating and project controls
- Contract management
- Environmental monitoring; and
- Coordination of TTC operations, procedures, expectations, and safety and quality standards.

Client: Toronto Transportation Commission | Tony Baik, Project Manager | Phone [redacted]

TORONTO TRANSIT COMMISSION (TTC)
SHEPPARD SUBWAY/ RAPID TRANSIT EXPANSION PROGRAM (RTEP)

PROGRAM MANAGEMENT | PROJECT CONTROLS | SCHEDULING | COST ESTIMATING | PLANNING STUDIES | VALUE ENGINEERING
DESIGN MANAGEMENT | SYSTEMS INTEGRATION | PROJECT COORDINATION

The $7 billion Rapid Transit Expansion Program (RTEP) in Toronto included four extended subway lines, an LRT line, and a subway vehicle maintenance facility. The $1 billion, 4-mile, first phase Sheppard Subway was completed in 2003. Delcan as a lead member of a JV team was responsible for overall program management including program initiation, design management, funding support, project controls, procurement, construction management, and contract administration. Operating in an integrated project team with TTC staff, Delcan managed: EA approvals; community consultation, liaison and outreach programs; third party, stakeholder and utility coordination; property and right-of-way including interfaces with property owners, utility companies, agencies, City departments and the Ministry of Transportation. The team also managed detailed design; permitting; commissioning, start-up, system integration, code compliance, value engineering, safety certification and training; and design of systems elements (signaling, communication, power, track, fire/life safety systems). Over 250 contracts and purchase orders ranging in value up to $100 million; were issued for design and construction of fixed facilities, and systems components incorporating:



- Fixed Facilities: stations, tunnels, bridges, ancillary structures, roadways and utilities;
- Operating systems: track, power, signals, CCTV, radio, fiber optic, SCADA, elevators, escalators, ventilation & fare collection;
- Material/equipment supplies;
- Professional Services: geotechnical, construction supervision / contract administration / inspection and testing; fire/ life safety; ventilation simulation; and
- Third Party Agencies: roads, power, gas, telephones, traffic lights

The integrated Program Management model and the success of the Sheppard Subway has prompted other transit agencies in North America to adopt the model for their new transit developments. The team won the International Project of the Year Award in 2003 for the project management of Sheppard Subway, by the CMAA.

Client: Toronto Transportation Commission | Andy Bertolo, Project Manager | Phone [redacted]

LONG ISLAND RAIL ROAD VANDERBILT YARD RELOCATION

MASTER PROGRAM SCHEDULING | EVALUATION AND COORDINATION OF RESOURCES | LOGISTICS PLANNING | PERFORMANCE OF ENVIRONMENTAL TESTING | FACILITY FORCE PLANNING | COST CONTROL

McKissack, under contract to Forest City Ratner Companies, is providing construction management services for the relocation of the LIRR's Vanderbilt Yard in Brooklyn. McKissack leads the overall planning, co-ordination and control of the $340 million project and is conducting regular Design/ Constructability Reviews, Bid Development/Analysis, and proactive Schedule Management and Cost Control. McKissack is also providing oversight of facility force planning and the collection of information used to make inferences and analyses regarding program resources efficiency, ensuring schedule and budget compliance. McKissack will meet the LIRR's requirements to produce a functionally and financially viable project that will be completed on time within authorized cost and to the LIRR's quality standards.

McKissack is also providing M/W/LBE Management/Administration, Technology Support, Security, and Environmental Testing.

Client: Forest City Ratner Companies | Thomas Bonacuso, PE, Vice President, FCRC | Phone [redacted]

NEW YORK CITY MTA LONG ISLAND RAIL ROAD (LIRR) EAST SIDE ACCESS PROGRAM MANAGEMENT SERVICES

MASTER SCHEDULE PROGRAMMING | COST CONTROL SUPPORT | CONSTRUCTION STAGING | EVALUATION AND COORDINATION OF RESOURCES LOGISTICS ENGINEERING | VALUE ENGINEERING

The PACO Group is the largest sub-consultant on the Program Management Team (PMT,) providing Cost, Scheduling and Value Engineering, among other CM Services for the East Side Access Project. The completed project will connect the Long Island Railroad (LIRR) to Grand Central Terminal, on the east side of Manhattan, by the construction of a new LIRR Terminal in the underlying rock beneath Grand Central Terminal. The project will utilize the existing 63rd Street tunnel which runs under the East River between Manhattan and Queens. The tunnel will connect Sunnyside Yard in Queens to Grand Central Terminal in Manhattan via a new tunnel running beneath Park Avenue. The construction includes seven miles of tunnels, over 3.5 route miles, a new Sunnyside, Queens station, an upgrade of Sunnyside Yard, 50,000 feet of new track, and five new entrances at Grand Central Terminal.

Client: Metropolitan Transportation Authority | Jeffery Vladyka, PE, URS Corp. | Phone [redacted]

TORONTO TRANSIT COMMISSION (TTC) SPADINA SUBWAY LINE EXTENSION PROGRAM MANAGEMENT

PROJECT MANAGEMENT | STAFF PROCUREMENT | COST ESTIMATING | PROJECT SCHEDULING | VALUE ENGINEERING | CONTRACT COORDINATION

Delcan in joint venture, isproviding Project Management Services for Toronto's $2.6 billion Spadina Subway Extension. The extension will expand the TTC subway network beyond the City of Toronto limits, and will extend the Spadina Subway line by 5.34 miles and add six stations. Challenges for the project will vary from building subway tunnels under existing buildings to devising detour plans and traffic impact plans for traffic on surrounding neighborhood streets when construction ramps up.

The joint venture, of which Delcan is a leading member, is co-located in a project team office with the TTC, allowing the team to work together under an integrated management organization structure. The integrated team responsibilities include:

- Design Review
- Quality management and control
- Communications management
- Contract procurement, management and administration
- Work plans
- Coordination with TTC Procurement
- Management of integrated client/consultant team
- Handover and close-out.
- Deployment plan
- Resource management
- Budgets
- Construction management practices/ procedures
- Constructability Review
- Change control and claims
- Commissioning
- Safety certification

Client: Toronto Transit Commission | Andy Bertolo, Project Manager | Phone [redacted]

PROGRAM AND QUALITY MANAGEMENT OVERSIGHT OF THE FASTRACKS TRANSIT PROGRAM IN DENVER FOR THE REGIONAL TRANSPORTATION DISTRICT (RTD)

QUALITY MANAGEMENT OVERSIGHT | PRIORITIZE AND COORDINATE OVERSIGHT ACTIVITIES | PERFORM DATA MANAGEMENT DEVELOP REPORTS & TREND ANALYSIS

RTD selected Delcan to provide quality management oversight services for FasTracks. FasTracks is a twelve-year, $7.6 billion public transportation expansion plan that includes: 8 corridors, 122 miles of new light rail and commuter rail, 18 miles of bus rapid transit service, 57 new transit stations, a $200 million Union Station facility improvement project, 21,213 additional parking spaces at transit Park-N-Rides, and enhanced bus service.

Delcan's oversight system is being implemented on FasTracks. The aim is to maintain a visible, accessible and consistent approach to oversight so feedback can be provided to contractors in order to monitor and continuously improve the delivery of projects. In addition, the information derived enables RTD and other stakeholders to obtain adequate confidence in the Work to facilitate Acceptance or Approval decisions.

Delcan has developed a number of database application tools that help FasTracks staff oversee work schedules and products. Delcan's priority planning helps the team prioritize oversight efforts based on risk and past performance. Areas of oversight include procurement items, schedule and budget monitoring or project controls, environmental planning, design and construction, and systems safety and security.

Client: Regional Transportation District | Richard Clarke, Senior Program Manager | Phone [redacted].

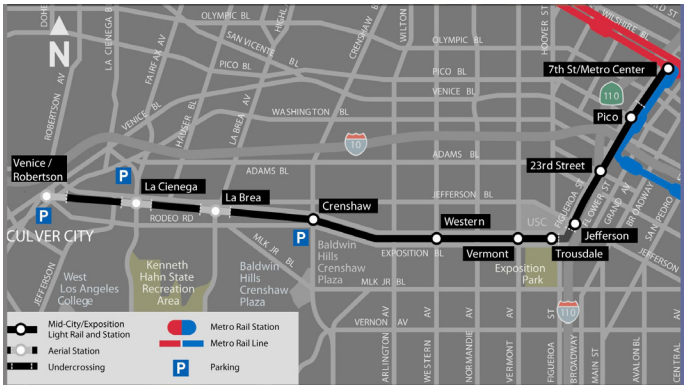
EXPOSITION METRO LINE LRT (EXPO), LOS ANGELES – PROJECT/QUALITY MANAGEMENT OVERSIGHT

PROJECT / QUALITY MANAGEMENT OVERSIGHT | DESIGN REVIEW OVERSIGHT | OVERSIGHT OF TESTING & COMMISSIONING CONSTRUCTION OVERSIGHT | OVERSIGHT DATABASE APPLICATION | SYSTEMS INTEGRATION OVERSIGHT

The Exposition (Expo) Line is part of the Los Angeles County Metropolitan Transportation Authority's (LACMTA) regional rapid transit expansion program, and will ultimately extend from downtown Los Angeles to Santa Monica. The $785 million first phase is 8.6 miles from downtown to Culver City, and consists of below-grade, at-grade, and aerial sections, and 11 stations.

Delcan is responsible for the development, implementation, and management of a project and quality management oversight (QMO) program for the project, and reports directly to the Exposition Metro Line Construction Authority. Delcan is using its innovative and proven methods to audit the construction processes, end products, and the implementation of the design-

builder's project management plan. By using performance measurements and risk management techniques, Delcan provides ongoing assessment and verification of the design-builder's adherence to project management and quality requirements, as well as to targeted design activities.



In addition to the work for the Expo Line, Delcan has been providing QMO services for the LACMTA since 1999. Delcan provided project management oversight for the original $8 billion transit expansion program. For the Pasadena Gold Line LRT, Delcan provided project management services for the design and construction from 1999 through 2003 as well as quality management oversight from 2001 through 2003. Delcan's exceptional performance on these assignments led to the current role for the Expo LRT project.

Client: Exposition Metro Line Construction Authority (EXPO) | Eric Olson, Chief Project Officer | Phone 2[redacted] | [redacted]

PANYNJ ON-CALL AIRPORT CONSULTING

Facility Planning | Technical Services | Capacity Planning | Business Analysis | Security Consulting

The Port Authority of New York and New Jersey has selected McKissack+Delcan to provide expert professional aviation studies and analyses of (1) Airport Facility Planning, (2) Aeronautical, Environmental and Technical Services, (3) Airport Capacity Planning, (4) Financial and Business Analyses and (5) Security for Newark Liberity International, John F. Kennedy International, LaGuardia, Stewart International and Teterboro Airports, as requested on a "call-in" basis during 2009 through 2013.

Client: Port Authority of New York and New Jersey | Ronnie Taste, Contract Administrator | Phone [redacted]

PANYNJ WORLD TRADE CENTER TRANSPORTATION HUB

Construction Management Services | MEP Engineering Implementation | EEO/Community Outreach Management | Sustainability Services | Cost Control | Schedule Control | Supervision of Inspections | Project Coordination

McKissack is a major subconsultant to the Joint Venture team providing construction management services for the PANYNJ WTC Transportation Hub in Lower Manhattan. As the project progresses, McKissack will provide integral services as each project group is activated: Executive Management Group; Platform/PATH Group; Memorial Interface Group; Transit Hall/Oculus Group; and Corporate Resources Group.

McKissack is currently utilizing its business and economic development expertise to identify, certify and mentor minority-owned, woman-owned, and small business enterprises for wide range of opportunities at the project.

McKissack is applying its rail-related and facilities construction management experience to the project, as well as providing overall project coordination and supervision, client and contractor liaison, quality control/assurance, project cost and schedule control, change orders and supervision of inspections.

McKissack will provide MEP implementation supervision including its organization, planning, scheduling, and safety enforcement. McKissack will also provide leadership for the sustainability effort at the project implementing energy and conservation measures.

Client: Port Authority of New York and New Jersey | Jim Durkin, Senior Vice President, Tishman | Phone [redacted]

Table D 1: Project Matrix

Project	Coordinate Track Access Requests	Project Coordination	Scheduling	Staffing	Force Account Management	Cost Estimating / Cost Control	Manage Planning Studies	Prepare Specs, Standards, Contract Language	Provide Field Oversight	Develop Schedules, Reports, Presentations	Systems Integration	Value Engineering	Perform Data Management
New York MTA Independent Engineering Services		X	X			X	X		X	X	X	X	X
Toronto Transit Commission (TTC) – Capital Program Management		X	X		X	X	X	X	X	X	X		X
Toronto Transit Commission – Spadina Subway Extension		X		X		X	X	X	X	X		X	X
TTC Sheppard Subway/ Rapid Transit Expansion Program (RTEP Program/Project Management	X	X	X	X	X	X	X	X	X	X	X	X	X
Program and Quality Management Oversight of The FasTracks Transit Program for the Denver RTD		X						X	X	X	X		X
Project And Quality Management Oversight For The Los Angeles Expo LRT		X						X	X	X	X		X
Atlantic Yards, Long Island Rail Road Vanderbilt Yard Relocation	X	X	X		X	X		X	X	X	X	X	X
WTC PATH Transportation Hub		X	X	X					X	X			X
Long Island Rail Road - East Side Access		X	X	X		X				X		X	X

E. Staff's Qualifications and Experience

Mr. Robert A. McDermott is proposed as the Senior Planning Manager. Mr. McDermott has more than 30 years experience in the rail industry serving in senior management positions with both the Long Island Railroad and the New York MTA. He has a proven record of managing large projects, a large number of staff resources and various design packages provided by consultants. Mr. McDermott will be responsible for interfacing to the Project Director of the Logistics Planning Group and will work with PATH management in the planning of facility force personnel. Mr. McDermott will supervise and direct the day-to-day activities of the McKissack+Delcan Team to ensure the proper and timely coordination of track access requests, coordination of project schedules, the planning of facility force staff, performing logistical support and the submittal of program deliverables. His experience is directly applicable to the role he will perform as Senior Planning Manager and includes the following:

- Superintendent of Train Movement at Long Island Rail Road: oversaw a workforce of approximately 160 Operations Center employees that controlled all train movements, and coordinated major LIRR construction projects.
- Consultant: Senior Project Manager/Long Island Rail Road Operation Liaison for the Atlantic Yards/Nets Arena LIRR Vanderbilt Yard Relocation in Brooklyn, NY, responsible for the supervision of project staff and the oversight of force account planning.
- Director of Railroad Operations for the New York City MTA East Side Project: responsible for coordinating the efforts of outside consultants relative to construction of rail link between LIRR in Queens, New York and Grand Central Station in Manhattan.

Mr. Mourad Armanious is proposed as a Plan Coordinator (Primary). Mr. Armanious has experience in the rail transit industry working with various agencies within the New York/New Jersey area. His experience in the testing and commissioning of complex communication systems will be an asset to his role as Plan Coordinator at PATH as they move forward with their Communication System Upgrades. Mr. Armanious will work with the Senior Planning Manager and all stakeholders to analyze schedules and the impact on resources. Mr. Armanious experience includes the following:

- Senior Electrical Engineer/Plan Coordinator on the MTA Security Program performing inspections of communications equipment, modifying design, preparing drawings, providing direction to the Contractor's team, and coordinating with management and operations.
- Senior Electrical Engineer at the Port Authority of New York and New Jersey (PANYNJ); oversaw a $21 million portion of the security system project assigned for the three Metropolitan area major Airports: LaGuardia Airport, and JFK and Newark Liberty international airports.
- Electrical Engineer at New York City Transit; responsible for coordinating with management, operations and contractors to ensure equipment was in compliance with specifications and standards.

Mr. Ralph Drewes is proposed as a Plan Coordinator (Secondary), if required. His resume can be found in this section.

Mr. Christopher Wahl is proposed as Field Coordinator (Primary). Mr. Wahl has over 19 years of experience in the rail transit industry, including the design, implementation, testing and commissioning of automatic train control and signaling equipment. His background in software engineering and systems integration makes him unique in understanding the complex issues relating to software-based signaling systems. His experience in coordinating the work of various Contractors and Agency staff will be directly applicable to his assignment as Field Coordinator. Mr. Wahl will work with the Senior Planning Manager, PATH and contractors to understand the planned work and identify potential problems with the work schedules. He will perform audits of field work, produce reports and be pro-active in providing recommendations to PATH ir ways to streamline the field installation, test and commissioning activities. Mr. Wahl's experience includes:

- Contractor at Bombardier Transportation designing and implementing "moving block" Communications Based Train Control technology.
- Consultant specializing in helping agencies deal with the issues surrounding the commissioning of a new signaling system on a railroad that is in continuous operation.
- Technical Liaison on a number of projects including the Metro Madrid Lines 1 & 6, and the Evergreen Light Rail Line, Yong In Korea. Technical liaison between Bombardier and the Agency representatives during system implementation.

Mr. Michael Arato is proposed as a Field Coordinator (Secondary), if required. His resume can be found in this section.

Mr. Keith Skilling is proposed as the Scheduler (Primary). Mr. Skilling has more than 28 years experience in the control of project cost and schedules for the design, construction and management of civil, infrastructure, transportation, and commercial projects valued between $35 million and $1.2 billion. His experience includes project scheduling, project and field cost reporting, trend analysis, change control, engineering and construction progress measurement, planning, and resource optimization. He has extensive experience with Primavera P6 and the critical path method. Mr. Skilling will work with the Senior Planning Manager, PATH and the McKissack+Delcan Cost Engineer in the construction planning, cost estimating and scheduling activities to produce monthly updates and reports. Mr. Skilling's experience includes:

- Senior Project Controls/Schedule Engineer for the Program/Project Oversight for various MTA Agencies: Metro North Railroad, Long Island Railroad and Capital Construction; responsibilities included:
  - review of project budgets, schedules and project documents;
  - preparation of various project monitoring reports for the MTA Capital Program Oversight Committee.
- Project Controls Engineer on a number of Transit Projects including:
  - Norfolk Light Rail
  - Triangle Transit Rail Extension
  - New Jersey Transit Montclair Extension
  - Newark Airport Monorail.

Mr. Carlos Sanchez is proposed as Scheduler (Secondary) if required. His resume can be found in this section.

Ms. Candy Richardson is proposed as Cost Engineer (Primary). Ms. Richardson is an accounting and financial professional with more than 30 years of experience in financial planning, analysis and accounting. Her experience includes responsibility for budget development and staff management, monitoring and reporting financial variances and trends, and recommendations and implementation of cost control improvements.Her experience in producing facility force budgets and forecasts and their impact on projects within the Rail Transit Industry makes her an excellent fit for the Cost Engineer position at PATH. Ms. Richardson's experience includes the following:. Ms. Richardson's experience includes the following:

- Force Account Manager/Plan Coordinator on the Atlantic Yards/Nets Arena, Long Island Rail Road Vanderbilt Yard Relocation project; responsible for the evaluation of project budgets and schedules and their associated impact on planned/available resources related to the project as well as the update and maintenance of a work request/project database.
- Finance Officer of the Engineering Department at Amtrak where she held budget authority in the range of $60 million to $100 million and managed the day-to-day financial activities of the New York Division, including budgeting and monitoring of facility force personnel..

Mr. Sergey Kogan is proposed as Cost Engineer (Secondary). His resume can be found in this section.

Mr. Mike Bukata will fill the position of Database Developer. Mr. Bukata has been added to the McKissack+Delcan Team in order to implement a web-enabled database application which will be used to track progress, handle track access requests, resource requests and approvals, provide alerts and provide reports. Mr. Bukata has served in Information Technology positions and construction roles for over 20 years in the Transportation industry. Mr. Bukata will work directly with PATH to tailor the web-enabled database application to the needs of the PATH Team.

Mr. Dan White will act as the Quality Management Auditor, independent from the assignment except to perform annual audits of our team's adherence to our Quality Management Plan and Work Plan. Dan White is a Certified Quality Auditor (CQA), with over 30 years of relevant experience, in quality management, quality auditing, and systems engineering mostly in the transit industry. Dan is currently acting as Delcan's Quality Program Manager for the Exposition Metro Line LRT project in Los Angeles.

Because of our Joint Venture arrangement and the strong corporate commitment shown by both McKissack and Delcan, the two Senior Executives of our firms will serve as the project's Officers-in-Charge.

Mr. Michael Kaleda – Officer-in-Charge (Primary). Mr. Kaleda has 30 years of experience in the construction industry. As Executive Vice President of The McKissack Group Inc, Mr. Kaleda has day-to-day responsibility for managing the company and for ensuring that proper strategies are implemented to ensure client satisfaction by safely and efficiently delivering high quality services. He has strong professional qualifications and experience in Rail Transit as demonstrated below and will be able to effectively carry out the responsibilities of being the Officer-in-Charge for this assignment. Mr. Kaleda's project experience includes:

- Design Manager for the Port Authority of New York & New Jersey, New York, NY for a $1.7 billion program to redevelop Newark International Airport.
- Officer In Charge for $300 million rail project that involves the relocation of the Long Island Rail Road's VD Yard in Brooklyn
- Project Executive responsible for project management oversight services on the New York Metropolitan Transportation Authority, Capital Program Improvement Program
- Chief of Design, Construction & Railroad Operations and Chief Engineer for the MTA's $6.3B, seven mile tunnel extension of its LIRR system into Grand Central Terminal under the east side of Manhattan
- Deputy Vice President/Deputy Chief Engineer at MTA/New York City Transit, Department of Capital Program Management, New York, NY

Brian Stearman – Officer-in-Charge (Secondary). Mr. Stearman is President of Delcan's Infrastructure Business and is based in the Washington, DC area office. He is responsible for all infrastructure projects (including all oversight assignments) in the United States. He has strong professional qualifications and will be able to effectively carry out the responsibilities of being the Officer-in-Charge for this assignment. Specifically, Mr. Stearman has:

- 37 years of consulting experience in the transportation industry;
- $400 million plus in transportation consulting projects successfully completed;
- 28 years of experience in fulfilling Officer/Principal-in-Charge responsibilities for such firms as Delcan, Booz | Allen | Hamilton, and Parsons Transportation Group; and
- Successfully managed 7 multi-year, multi-million dollar task order contracts for Federal Government Agencies – including two for the Federal Transit Administration.

In addition to the above described key staff, McKissack+Delcan has a depth of rail transit expert resources to draw from when and as required by PATH. As described in Section F of this proposal, we have included resumes in this section, of the following types of specialists available when and if required by PATH:

- Carlos Sanchez - Cost Controls Engineer
- Lori Colangelo - Systems Integrator
- Alfonse Dell'Isola - Value Engineering/Constructability Specialist
- Martha Parsons - Staff Recruiting Specialist

Mr. Kaleda's R levant Experti e at a Glance

- ✓ *Senior Manager*
- ✓ *Capital Program Management Oversight*
- ✓ *Supervision of Force Account Planning, Scheduling, Estimating and Procurement*
- ✓ *Di erse Technical and Managerial Expertise*

Mike Kaleda – Officer-in-Charge

EDUCATION
M.S., Civil Engineering, University of Illinois;
MBA, Management, Rensselaer Polytechnic Institute
B.E., Civil Engineering, Manhattan College

PROFESSIONAL CREDENTIALS
None

PROJECT EXPERIENCE

Atlantic Yards, Long Island Rail Road Vanderbilt Yard Relocation, Brooklyn, NY: Served as Officer-In-Charge for a $300 million rail project that involves the relocation of the Long Island Rail Road's VD Yard in Brooklyn to accommodate the construction of a new arena for the New Jersey Nets basketball team. Mr. Kaleda provided supervision of all McKissack team members on the project and direct oversight for all force account planning, scheduling, estimating and procurement operations. The work includes the relocation of the Yard from the west portion of the site to the eastern portion, and the construction of a temporary yard to allow for the construction of foundations for the new New Jersey Nets arena. The work also involved the demolition and replacement of the Carlton Avenue Bridge to allow for necessary track realignments. Other construction includes track, switches, traction power and signals.

Metropolitan Transportation Authority, East Side Access Project, New York, NY: Served as Chief of Design and Chief Engineer for the MTA's $6.3 billion, seven mile tunnel extension of its LIRR system into Grand Central Terminal under the east side of Manhattan. Key contributor to DEIS and FEIS preparation and approval. Managed the design and comprehensive construction interface for stakeholders. Obtained approvals at all project milestones. Negotiated and administered 63 agreements with autonomous MTA subsidiaries and the New York Atlantic Railway. These agreements covered scope, schedule, funding and railroad labor and coordination requirements. Supervised the planning, scheduling, estimating, and procurement of the $500 million force account construction program, covering all work performed by, protected by or inspected by railroad forces. Directed the certification process in accordance with Federal guidelines. As *Chief Engineer*, adjudicated construction disputes between private contractors and the MTA. Developed, initiated and managed the project's partnering program. Served as New York State's Code Enforcement Official.

MTA New York City Transit, Department of Capital Program Management, New York, NY: As Deputy Vice President and Deputy Chief Engineer, developed and implemented the vision and business plan for a $1 billion annual capital program addressing the NYCT department's strategic leadership needs and commitment to customer satisfaction.

The Port Authority of New York & New Jersey, New York, NY: As *Design Manager* for a $1.7 billion program to redevelop Newark International Airport, supervised conceptual design phase for automated people-mover facilities. Led the team charged with defining the guideway alignment.

United States Air Force, Strategic Air Command, New York, NY: Performed in various active duty management positions including directing a $1 billion facilities construction program for base extension programs. As *Deputy Chief* of

a $400 million facility construction program at four air force bases in the Midwest, provided oversight of all design and construction management initiatives supplied by the Army's Corps of Engineers and its consultants. Supervised a staff of 4 project managers. As Chief of the Facilities Management Division at Griffiss Air Force Base in Rome, NY, responsible for physical plant services including emergency repairs, minor construction and preventative maintenance. Real estate included over 100 buildings on over 3900 acres at 11 locations. Supervised a staff of designers, customer service, material purchasing and warehousing, and scheduling specialists.

EMPLOYMENT HISTORY

2005 – Present: McKissack & McKissack, Executive Vice President
1997 – 2005: MTA, Chief Engineer
1989 – 1997: NYC School Construction Authority, Chief Project Officer
1988 – 1989: PANYNJ, Design Manager
1981 – 1988: US Air Force, Deputy Chief

Mr. Stearman's Relevant Expertise at a Glance

- ✓ *Senior Manager*
- ✓ *Capital Program Management Oversight*
- ✓ *Diverse Technical and Managerial Expertise*

Brian J. Stearman – Officer-in-Charge (Secondary)

EDUCATION
MBA, Louisiana State University
B.S., Management and Economics, University of South Carolina

PROFESSIONAL CREDENTIALS
None

PROJECT EXPERIENCE

Transportation Expansion Project (T-Rex), Regional Transportation District (RTD) Compliance Audit And Quality Management Oversight (Officer-in-Charge) The project was completed 22 months ahead of schedule, 3.2% under its $1.67 billion budget, no claims, achieved a 92% commuter approval rating and is considered to be one of North America's most successful infrastructure projects. The project team has received numerous industry awards for its success – including several relating directly to its Quality Management Oversight (i.e. Colorado Performance Excellence Award, IRF Global Achievement Award for Quality Management, and the National Partnership for Highway Quality Award. In addition, the success of this project led to public support for RTD's FasTracks program during the 2004 election. Responsibilities include:

- Contract: Approval and Requirements Management;
- Annual Scope and Budget: Negotiations and Approval;
- Staffing: Assignment, Retention Management, Replacement;
- Performance: Assessments, Best Practice Awareness, Improvement Actions; and
- Client Interaction: Status and Performance Briefings.

FasTracks Program Regional Transportation District (RTD), Officer-in-Charge. A 12-year, $6.2 billion public transportation expansion program for the Denver-Aurora and Boulder metropolitan area in Colorado. The project involves six light rail, diesel commuter rail and electric commuter rail lines with a combined length of 119 miles to be opened between 2013 and 2016. The program also includes the expansion of existing light rail stations, the addition of a bus-based rapid transit route between Denver and Boulder, and the addition/expansion of bus routes and parking facilities to support the new rail lines. As part of an integrated management team, Delcan is defining project requirements, reviewing proposals, and designing, implementing and maintaining the compliance audit system for the duration of the project. Responsibilities:

- Contract: Approval and Requirements Management;
- Annual Scope and Budget: Negotiations and Approval;
- Staffing: Assignment, Retention Management, Replacement;
- Performance: Assessments, Best Practice Awareness, Improvement Actions; and
- Client Interaction: Status and Performance Briefings.

U.S. Government's General Service Administration: Management, Organization and Business Improvement Services (MOBIS) Task Order Contract. Mr. Stearman serves as Delcan's Officer-in-Charge on this recently won twenty year task order contract for the Federal Government. Through this contract vehicle, Delcan will be able to assist any government agency in improving its overall operations.

State of Maine, Information Technology Support Services. Task Order Contract. Mr. Stearman serves as Delcan's Officer-in-Charge on this recently won task order contract to provide the State government with information

technology services. The primary focus for Delcan's involvement is serving the Highway Department in supporting their Maintenance Activity Tracking System (MATS).

Vermont's Agency of Transportation: Support Services for the Maintenance Activity Tracking System (MATS) Task Order Contract. Following the development and implementation of a highly successful maintenance management system (MATS), Vermont retained Delcan to provide support services related to this system. Mr. Stearman managed the original development and implementation effort…and now serves as Delcan's Officer-in-Charge on this multi-year task order support contract.

EMPLOYMENT HISTORY

2002 – Present: Delcan, President
1989 – 2002: Booz Allen Hamilton, Vice President
1982 – 1989: DeLeuw Cather & Co. (Parsons Transportation), Vice President
1973 – 1982: Roy Jorgensen & Associates, Inc., Vice President and member
1972 – 1973: Macke Company, Logistics Analyst
1971 – 1972: Economic and Industrial Research Inc., Consultant
1970 – 1971: South Carolina Department of Transportation, Financial Analyst
1967 – 1968: Washington D.C.'s Bureau of Roads, Eng.'s Aide

Mr McDermott's Relevant Expertise at a Glance

- ✓ *Project Management*
- ✓ *Force Account Planning*
- ✓ *Resource Planning*
- ✓ *Data Acquisition and Analysis*
- ✓ *Operational Analyses*
- ✓ *Superintendent of Rail Operations*
- ✓ *Project Coordination*

Robert McDermott–
Senior Planning Manager

EDUCATION
AA, Architecture, Adelphi University;
Management Studies, Cornell University;
Achieving Breakthrough Customer Service, Harvard University;
Applied Engineering Program,
George Washington University;
Teaching Occupational Education, NYIT

PROFESSIONAL CREDENTIALS
None

PROJECT EXPERIENCE

Atlantic Yards, Long Island Rail Road Vanderbilt Yard Relocation, Brooklyn, NY: As Senior Project Manager/LIRR Operations Liaison, Mr.McDermott's responsibilities included the supervision of project staff and the oversight of force account planning, and negotiating with the LIRR on behalf of the developer on all design, construction and railroad operation aspects of this $300 million infrastructure project. He was directly responsible for the oversight of facility force planning and the collection of information used to make inferences and analyses regarding program resources efficiency, ensuring schedule and budget compliance. The scope of the project includes new track, switches, traction power and substation, upgraded signal system, toilet servicing and structures as well as the demolition and replacement of the Carlton Avenue bridge, replacement of perimeter retaining walls, installation of foundations to support a future overbuild, site and street utility relocations, and a cut and cover tunnel under Atlantic Avenue. The work is phased to allow continued LIRR operations in the yard.

Parsons Brinckerhoff Transit and Rail Systems, Newark, NJ: As Senior Principal Technical Specialist, Mr. McDermott performed operational analyses on various rail projects including Penn Station Access, California High Speed Rail, Mid-Atlantic Rail Study, 2012 Olympics, Access to the Regions Core (ARC), Florida Tri-Rail, and San Francisco TransBay. He prepared Technical Papers, spreadsheets and associated documents for various clients and served as Project Manager for Forest City Ratner's Atlantic Yards Project, a development project to redesign the LIRR's VD yard in Brooklyn, NY.

MTA East Side Access Project, New York, NY: Mr. McDermott was Director of Rail Operations selected to serve for the New York City MTA East Side Project. He was responsible for coordinating the efforts of outside consultants relative to construction of rail link between LIRR in Queens, New York and Grand Central Station in Manhattan. He ensured all railroad operational aspects were addressed and included in design, construction and ultimate operation to provide a safe and efficient transportation facility. He ensured compliance with applicable Federal Railroad Administration regulations and LIRR operating rules.

LIRR North Shore Operations, Jamaica, NY: As Superintendent, Mr. McDermott was responsible for all aspects of railroad field operations for the LIRR's Main Line, Port Jefferson, Oyster Bay, Hempstead, and Port Washington branches. He oversaw all terminal operations, crew and rolling stock manipulations, track outages, derailments, service disruptions and all related support activities associated therewith.

Long Island Rail Road, New York, NY: As Superintendent in charge of the LIRR's Movement Bureau, Control Towers and Energy and Equipment Departments, Mr. McDermott was responsible for the safe and efficient movement of all

trains over the entire Long Island Railroad. He oversaw a workforce of approximately 160 employees that coordinated train movements through major storms, service disruptions as well as major LIRR construction projects. As Train Movement Supervisor, he directed day-to-day operations of the LIRR Movement Bureau and Tower Department. He supervised all employees in the performance of their duties, conducted investigations, presided at company hearings, performed safety checks, coordinated track outages, worked on planning committees and acted as Superintendent in his stead. As Training Specialist, he was responsible for teaching LIRR Operating Rules and Physical Characteristics to all employees. He prepared lesson plans, assessed student progress, implemented training sessions and made departmental presentations to various groups, as well as developed the first classroom-based training program on signal hut (CK) operation. As Chief Train Dispatcher, employed as an "extra" Chief Train Dispatcher while working as a Train Dispatcher. He was responsible for supervising Train Dispatchers, Assistant Chief Dispatchers and PA Console Operators in the performance of their duties.

EMPLOYMENT HISTORY

2006-Present	McKissack & McKissack, Senior Project Manager/LIRR Operations Liaison
2000-2006	Parsons Brinkerhoff, Senior Principal Technical Specialist
1998-2000	MTA, Senior Project Manager
1974-1998	LIRR, Superintendent of LIRR Movement Bureau, Control Towers and Energy and Equipment Departments

Daniel A. White – Quality Management Auditor

Mr. White's Relevant Expertise at a Glance

- ✓ *Certified Quality Auditor*
- ✓ *Quality Oversight*
- ✓ *Management of Quality Auditor Team*
- ✓ *Extensive Rail Transit Experience*

EDUCATION

B.S., Mechanical Engineering, Purdue University, West Lafayette, IN, 1975

MS, Civil Engineering, Purdue University, West Lafayette, IN, 1976

MBA studies, Wright State University, Dayton, OH, 1977-1980

MPA (Management Problem Analysis), General Electric's equivalent MBA Program, 1983-1984

PROFESSIONAL CREDENTIALS

Project Management Professional (PMP)
Certified Quality Auditor (CQA)

PROJECT EXPERIENCE

Exposition Metro Line Construction Authority, Los Angeles: Developed, implemented and manage a Quality Oversight Program for the Exposition Metro Line Construction Authority. This light rail line is the newest extension of the Los Angeles Metro Rail system. The Quality Oversight Program provides ongoing assessment and verification of the Contractor's adherence to quality requirements during the construction and acceptance phases of the work. Assessments of targeted design activities of the Contractor have also been requested by the Authority.
This effective Quality Oversight Program consists of:

- Managing the quality auditors conducting assessments at the field level. The auditors have been trained to recognize contractual requirements and utilize the existing database to develop checklists for assessments; work with Authority and Contractor staff to determine all pertinent information; and perform quality assessments.
- Managing the web-based quality database, that is utilized by the auditors to generate quality assessments.
- Managing the assessment files and the associated documents and correspondence to document, track and close any issues raised during an assessment.
- Coordinating with the Contractor's quality and management organizations, as well as the Authority's management, to elevate quality issues and assist with their effective and timely solutions.

Sound Transit, Commuter Rail and Express Bus Systems, Puget Sound Area (Quality Program Manager): Developed and implemented a comprehensive quality management program for the design, construction and operation of the commuter rail and express bus systems serving the three-county Puget Sound area. Significant achievements include:

- Spearheaded the year-long collaborative effort by consultant, contractor and agency personnel to determine the failure of, generate solutions and provide independent oversight for the remedial work necessary to safely reopen the recently constructed $10 million railroad embankment structure. Its closure had severely disrupted commuter rail service. A design-build contract format was successfully utilized to meet the project constraints.
- Established an effective liaison between the agency, Seattle Fire Department and the railroad to provide fire/life/safety improvements to fire code exempt tunnels. These railroad tunnels are utilized for commuter rail, freight and passenger traffic.

Los Angeles County Metropolitan Transportation Authority (LACMTA), Supervising Engineer/Quality Manager: Supervising Engineer: Oversaw the design, procurement, construction and start-up of major rail facilities, electrical traction power equipment, communication networks, train control systems and other subsystems. Directed consultants and contractors for successful procurement of transit vehicles.

- Acting Director of Systems Engineering for 5 months. Managed a staff of 25 and had direct interface with executive management on all aspects of systems, mechanical and electrical engineering.
- Program Manager for the 5-6 year procurement of up to 83 light rail vehicles on a budget of $200 million. Vehicle consultant contract to support this procurement was an additional $10 million. Contract delivery methods were based upon performance specifications and/or design-build requirements.
- Directly managed a staff of 5-8, involved with an average of 35 to 50 capital projects, totaling $100 million, on an annual basis.
- Managed the manufacturing contract of 52 light rail vehicles and coordinated their delivery with Operations.

Quality Manager: Planned and implemented a comprehensive quality management program for the design and construction of one of the largest public works program in the country. Significant achievements included:

- Audited the rail activation process for the system integration testing for the North Hollywood portion of the Metro Red Line. Assured that the tests that MTA staffs, consultants, contractors, designers and construction management were involved with and responsible for were accurate, timely and complete. This critical support allowed the multi-billion dollar project to be completed on time and under budget.
- Developed and implemented quality management programs and processes for the engineering consultants that were responsible for all subway and light rail design for the MTA.
- Considerable field experience/exposure dealing with design, construction and testing efforts was a key ingredient to the success of projects. This consistent field presence greatly aided in the effectiveness of the design and construction efforts.

EMPLOYMENT HISTORY

2007-Present Delcan Corporation
2006 – 2007: BRJ & Associates, LLC, Program Manager
2003 – 2006: Sound Transit, Quality Program Manager
1995 – 2003: Los Angeles County Metropolitan Transportation Authority (LACMTA), Supervising Engineer/Quality Manager
1992 – 1995: Parsons Corporation, Senior Quality Assurance Auditor/Field Site Manager

Michael S. Bukata – Database Developer

Mr. Bukata's Relevant Expertise at a Glance

- ✓ *Database Development*
- ✓ *Web Application Development*
- ✓ *Project Management Oversight*
- ✓ *Quality Management Systems*

EDUCATION
Engineering Technologist, Seneca College, Toronto, 1987

PROFESSIONAL CREDENTIALS
A.Q.A. Certified Internal Auditor
A.Q.A. Certified Lead Quality Auditor

PROJECT EXPERIENCE

Project and Quality Management Oversight for the Expo LRT, Los Angeles, California: Managed development of Quality Oversight web application and liaised with client teams to develop IT solutions and define application requirements for this $785 million light rail transit construction project.

Program and Quality Management Oversight of the FasTracks Transit Program for the Regional Transportation District (RTD), Denver, Colorado: FasTracks is a 12-year, $4.7 billion public transportation expansion plan for the Denver-Aurora and Boulder Metropolitan Areas, developed by RTD. The plan calls for six light rail combined length of 119 miles to be opened between 2013 and 2016. The plan also includes the expansion of existing light rail stations and the addition and expansion of bus routes and parking facilities to support the new rail lines. Managed development of web applications and liaised with RTD teams to develop IT solutions and define application requirements.

Los Angeles Metro Gold Line Authority, Los Angeles Metro Gold Line, Los Angeles, California: Construction of a $680 million light rail line extending 15 miles from Union Station in downtown Los Angeles, north to Pasadena. This line includes conventional double track electrified line with thirteen stations; sections of underground rail constructed by cut and cover methods and a 1 km section of elevated track. Fulfilled role of applications developer and Database Administrator. Designed custom database management systems to facilitate the project's Quality Audit system.

Colorado Department of Transportation, T-Rex Design Build Project, Denver, Colorado: $1.6 billion expansion project consisting of 19 miles of new Light Rail Transit (LRT) line, including 13 stations, and improvements to 17 miles of two interstate highways in the Denver Metropolitan area. Hands-on manager responsible for application development and coordinating process development for a multi-location infrastructure. Fulfilled role of applications developer and DBA. Developed web applications with Microsoft .NET technology to support Quality Management processes, accelerate decision-making and achieve significant efficiencies. Led initiatives to streamline certain business processes.

Systems Analyst/Applications Developer-Independent Quality Firm on I-15 Pioneer Crossing for UDOT: Developed web based information systems along with handheld technology to support Delcan as the Independent Quality Firm (IQF). The IQF reports to and acts for UDOT in the inspection and testing of the design and construction activity, producing the quality records necessary for UDOT to accept the work.

Maryland ICC Project: Managed development of web applications and liaised with client teams to develop IT solutions and define application requirements for $2.3 billion transportation project - the largest design-build program ever undertaken by the State of Maryland.

Colorado Department of Transportation, Colorado Springs Metro Interstate Expansion: $150 million expansion project consisting of construction of additional traffic lanes on I-25 through Colorado Springs, reconstruction of several major interchanges and construction of sound walls along the corridor. As Applications Developer and DBA, developed interactive web applications and managed web servers and SQL Server databases for certain Quality Management systems.

EMPLOYMENT HISTORY

1987 – Present: Delcan Corporation, Senior Systems Analyst/Applications Developer
1986 – 1987: Ministry of Natural Resources, Surveyor

Mr Wahl's Relevant Expertise at a Glance:

- ✓ *Program Management*
- ✓ *Scheduling*
- ✓ *Field Te t and Commissioning*
- ✓ *Hardware and Software Development Management*

Chris Wahl – Field Coordinator

EDUCATION

- B.S., Electrical and Computer Engineering, University of SUNY at Buffalo, Buffalo, NY
- M.S., Electrical Engineering with Computer Science Minor, University of Pittsburgh, Pittsburgh, PA

PROFESSIONAL CREDENTIALS

None

PROJECT EXPERIENCE

Jubilee Line Resignaling Program Assessment (Lead Assessor): Traveled to field and factory sites to assess the progress to-date of the resignaling software development and field T&C activities. Reviewed manpower allocations across the T&C activities. Reviewed performance of T&C and software development with regard to actual verses planned accomplishments. Using data collected, projected project completion based on past performance given several resource-allocation scenarios. This information was used by Senior London Tubes Line management to rebaseline budgets and schedules for the remaining work to be accomplished.

Metropolitan Transportation Association (MTA) Independent Engineering Consultant (IEC) (Project Manager CBTC & Signals): Responsible for monitoring numerous rail & transit systems design and construction projects for compliance with project management, budget, schedule, safety, and quality requirements. Specifically responsible for the oversight of signaling system upgrades including the introduction of Communications-Based Train Control and Positive Train Control modernization programs. Developed schedules for delivery and coordination of working reports within the IEC group.

Madrid Metro Lines 1 & 6 CBTC Resignaling Project (Field Liaison, Vehicle Software Engineering Manager): Managed a 10 person team in the development of onboard Automatic Train Control CBTC software for Lines 1 & 6. Lead the retrofit of the onboard CBTC equipment into several rolling stock types (legacy ATC and new CBTC ATC equipment could both operate the train). Transformed and prioritized technical requirements in Customer specification to a specification that could be used by the Bombardier CityFlo CBTC signalling developers in Pittsburgh. Developed additional system requirements to enable the CityFlo CBTC product to be efficiently adapted to the existing rolling stock on Lines 1 & 6. Managed requests for specification changes and requests for additional functionality. Administered cost-to-completion metrics for field vehicle retrofit activities, vehicle software development activities, and system test procedure delivery. Acted as liaison between Bombardier (Pittsburgh, PA), Rail Control Solutions (Madrid, Spain) and the Madrid Metro Transportation Agency.

Evergreen Light Rail Line, Yong In, Korea (Lead ATC Engineer): Responsible for the migration of the signalling system from a Thales-Seltrac based system to a Bombardier-CityFlo CBTC-based system. Automatic Train Control Lead Engineer in the adaptation of the Cityflo system to the Bombardier Mark II vehicle. Organized and oversaw a team of 8 people at 2 locations in the performance of this work. Maintained schedule, performance, and actual-vs-planned data on progress; reported progress to senior management weekly.

Red Line Light Rail Line; Tel Aviv, Israel (Signaling Consultant): Responsible for reviewing all signalling system design documentation and system operational plans. Provide specific recommendations for the design and operation of the train control system. Interface with the signalling supplier (Siemens) to resolve technical and system operational

issues. Compose white papers on various requested topics. Proposed schedule and resource allocations related to T&C work. Maintained database of design review outstanding requests and questions. Maintained database of technical specification variances.

EMPLOYMENT HISTORY

2009 – Present:	Delcan Corporation, Senior Systems Engineer Communications Based Train Control
2001 – 2009:	Embedded Technology Corp., President
2000 – 2001:	CoManage Corporation, Senior Software Engineer
1997 – 1998:	Auto-Matrix Corp., Engineering Manager
1994 – 2000:	Bombardier Transportation, Senior Automatic Train Control Engineer
1989 – 1995:	Bettis Atomic Power Laboratory, Naval Nuclear Control Systems Engineer

Mourad M. Armanious – Plan Coordinator

Mr. Armanious' Relevant Expertise at a Glance

- ✓ *Budget & Staff Management*
- ✓ *Resource Request Review*
- ✓ *Recommend & Implement Cost Controls*
- ✓ *Maintain Work Request Database*

EDUCATION

Master of Science, Electrical Engineering, Suffield University, Twin Falls, Idaho

Bachelor of Science, Electrical Engineering/Industrial Electronics, Menofia University, Cairo, Egypt

PROFESSIONAL CREDENTIALS

None

PROJECT EXPERIENCE

MTA Security Program for NYC Transit, LIRR, and MetroNorth, New York, NY (Senior Electrical Engineer/Plan Coordinator): As Senior Electrical Engineer, Mr. Armanious supported the construction management and inspection services contracts (contract C-52038) for the MTA Security Program for NYCT, LIRR and MNRR. Tasks performed included the inspection of conduits (rigid & emt), CCTV cameras, fiber optics and related security equipment and systems in subway stations and tunnels throughout the 5 borough's of NYC. Additionally, he modified design and prepared drawings when necessary and reviewed design and made major decisions as well as managed time of entire contractor's team. *This work was performed with another firm.*

NYC DEP Bowery Bay Water Pollution Plant, Pleasantville, NY (Senior Electrical Engineer): Mr. Armanious responsibilities included CPM/field check up, payments, progress, quality control, coordination, issues and task meetings. Aside from engineering, he was responsible for the interaction with other disciplines to identify and resolve in-field problems. *This work was performed with another firm.*

The Port Authority of New York & New Jersey, New York, NY, State of New Jersey (Senior Electrical Engineer): Mr. Armanious' tasks included handling in-field problems and attending minutes meeting with contractors and various divisions of PANYNJ. Oversaw $21 million portion of security system project assigned for the three Metropolitan area major Airports: LaGuardia Airport, and JFK and Newark Liberty international airports. Projects included Newark Airports Checkpoint Digital Closed Circuit TV System (ACDTV), Airports 800 MHZ Trunked Radio Communications System Microwave system and Airports AOA Perimeter Strengthening Fence. *This work was performed with another firm.*

NYC Transit Authority, New York, NY, (Electrical Engineer): As an *Electrical Engineer*, Mr. Armanious promoted employee safety and reduced crime within the subway system as he designed, implemented and tested CCTV safety equipment enabling train conductors to monitor passengers entering and departing subway cars, thus reducing casualties and injuries. He held technical hearings with winning bidders to ensure that all high-level specifications required by the NYCTA were met. Responsibilities with the Transit Authority included: site surveys, inspecting, testing and operating installed communication equipment such as telephone systems, fire detection/alarm systems Rx and Tx; ensuring equipment is in compliance with the specifications of the contract drawing; ensuring all equipment is UL listed and conformed to applicable NEC, NEMA, MFPA,FS, IEEE, NYCEC standards and specifications, and wrote daily reports and attended minute meetings; and designing, implementing and testing CCTV (surveillance system) including multiplexing and recording devices.

EMPLOYMENT HISTORY

2009 – Present: McKissack & McKissack, Senior Electrical Engineer/Plan Coordinator
2008 – 2009: Hacks Engineers, PC, Senior Electrical Engineer/Plan Coordinator
2006 – 2008: Savin Engineers, PC, Senior Electrical Engineer
2005 – 2006: Liro Engineers, Inc., Senior Electrical Engineer
2003 – 2005: Savin Engineers, PC, Resident Electrical Engineer
1999 – 2003: Metropolitan Technical Institute, Director
1993 – 1999: New York City Transit Authority, Electrical Engineer

Candace Richardson – Cost Estimating Engineer

Ms. Richardson's Relevant Expertise

- ✓ *Resource Request Analysis*
- ✓ *Profit Maximizing & Cost-Cutting Expertise*
- ✓ *Efficient Data Acquisition*
- ✓ *Progre s M nitoring, Analysis & Reporting*
- ✓ *Work Request Database Maintenance*

EDUCATION

Bachelor of Arts, Communications, Queens College; Financial Controls Diploma, NYU School of Continuing Education

PROFESSIONAL CREDENTIALS

None

PROJECT EXPERIENCE

Atlantic Yards Long Island Rail Road Vanderbilt Yard Relocation, Brooklyn, NY (Force Account Manager/Plan Coordinator): As Force Account Manager/Plan Coordinator, Ms. Richardson's responsibilities included the review of requests for resources and their impact on the project cost and budget. In addition, her responsibilities included the solicitation and review of project schedules and other information as it pertained to force management, and preparing cost estimates and preparing budgets and schedules related to their associated impact on planned/available resources related to the project as well as the update and maintenance of a work request/project database.

The scope of this $300 million infrastructure project includes new track, switches, traction power and substation, upgraded signal system, toilet servicing and structures as well as the demolition and replacement of the Carlton Avenue bridge, replacement of perimeter retaining walls, installation of foundations to support a future overbuild, site and street utility relocations, and a cut and cover tunnel under Atlantic Avenue. The work is phased to allow continued LIRR operations in the yard.

AMTRAK, New York, NY (Financial Officer): As Finance Officer of the Engineering Department, Ms. Richardson was responsible for managing the day-to-day financial activities of the New York Division, including budgeting and monitoring of facility force personnel. Ms. Richardson held budget authority in range of $60 million to $100 million and was responsible for preparing monthly budget reports and variance analyses, weekly and monthly financial reports and presentations for internal and external use. She reviewed financial directives and provided day-to-day budget monitoring for special projects and analyzed costs of maintenance, and construction. Managed joint facility invoicing for ordinary and extraordinary maintenance projects. Monitored and reviewed labor equipment documentation to ensure accuracy of force accounts presented for monthly billing. Assisted with the development and implementation of the core budget, and monitored and tracked financial performance. Recommended and implemented actions to ensure financial responsibility. Provided financial training for field management in support of their department's financial goals. Worked in conjunction with Engineering Department staff to ensure all contractual obligations were met with outside agencies. Assisted in development, coordination, and monitoring the administrative activities of a variety of Engineering and Capital Projects.

As Controls Analyst, ensured budget and cost controls for the NY Division programs, projects and operations were developed and maintained.

As Crew Base Supervisor, responsible for daily Crew Base operations, reconciling on-board shortages and adjustment of payroll issues.

As Revenue Accounting Analyst, responsible for processing controls and analysis of corporate transactions for Train Earnings, Refunds and Station accounting.

As Chief Entitlement Clerk, supervised data entry clerks and overseeing various payroll functions.

EMPLOYMENT HISTORY

2007-Present: McKissack & McKissack, Project Accountant
1976 – 2007: Amtrak, Finance Officer

Keith Skilling, P.E., PMP, PSP – Scheduler

Mr. Skilling's Relevant Expertise at a Glance

- ✓ *Master Schedule Development & Maintenance*
- ✓ *Force Scheduling & Budget Preparation*
- ✓ *Primavera P6 Utilization*
- ✓ *Project Controls*

EDUCATION

B.S., (Summa Cum Laude) Civil Engineering, University of Edinburgh, Scotland
Diploma in Construction Management (Class Prize), New York University

PROFESSIONAL CREDENTIALS

Project Management Professional (PMP)
Professional Engineer (PE)
Project Scheduling Professional (PSP)

PROJECT EXPERIENCE

New York State Metropolitan Transportation Authority (MTA), New York, NY: *Served as Senior Project Controls Manager for* the Program/Project Oversight for various MTA Agencies: Metro North Railroad, Long Island Railroad and Capital Construction. Responsibilities included: periodic site visits and attendance at project meetings; interviews with key agency personnel, consultants and contractors; review of project budgets, schedules and project documents; and preparation of various project monitoring reports for the MTA Capital Program Oversight Committee. Highlighted projects include: Centralized Train Control, Power Substations (MNR), Traction Power Supervisory Control and Data Acquisition (SCADA), Fiber Optic Communication Network, Audio Visual Paging System, Power Substations (LIRR).

Times Square Subway Station Renovation, New York, NY: Provided Cost and Schedule Controls during the design management phase of the renovation of the subway station as part of the 42nd Street Development Project in New York City. He set up budgets and cost accounts which showed clearly the financial responsibilities of the different public and private sector participants to the project.

New Jersey Transit, Montclair Connection, Montclair, NJ: Project Controls Engineer for the upgrade and rerouting of an existing 6-mile commuter rail line. Mr. Skilling established a method of incorporating the contractor's construction progress into the project's master schedule in such a way that the contractor's data was not compromised. He reported on delays, possible problems arising from subsidiary critical paths, and budgets. Additionally, he verified contractor's progress payments using earned value analysis and prepared monthly project controls reports.

Seven World Trade Center, New York, NY: Served as Assistant Project Manager responsible for project controls and scheduling during installation of a corporate financial headquarters including trading, investment and communication facilities. Negotiated scope, means and methods of major structural renovation work with bidders and successful steel subcontractor. Set up field performance reporting systems and pioneered use of computers in field construction operations. Early user of Primavera database applications for direct import into progress reports.

U.S. Courthouses, Brooklyn, NY: Mr. Skilling prepared analyses, reporting and forecasting for two separately managed federal courthouse buildings. One project involved construction of a 15 story new tower; the other of renovating a part 19th century/part early 20th century building housing Brooklyn's main post office. Contractor fell behind severely resulting in submission and review of many recovery schedules, commission and preparation of independent as-built schedules from inspectors' daily reports, and claims for extensions of time. Impacts resulting from changing federal requirements were examined individually, and then concurrently, in accordance with FAR.

EMPLOYMENT HISTORY

2008-Present	McKissack & McKissack, Senior Scheduler
2003-2008	PACO Group, Project Controls Manager
1999-2003	URS Corp., Senior Scheduler
1998-1999	Skanska Construction Co., Senior Project Manager
1997-1998	Hill International Inc., Resident Engineer/Asst. PM
1996-1997	Park Terrace Gardens Inc., Project Director
1993-1996	PriceWaterhouseCoopers, Consulting Associate
1991-1992	Urban Development Corporation, Office Engineer
1987-1990	AMEC Inc., Asst. Project Manager
1981-1987	The Galbreath Co., Owner's Representative

Lori Colangelo – Systems Integrator (if required)

Ms. Colangelo's Relevant Expertise at a Glance

- ✓ *Systems Engineering*
- ✓ *Systems Inte ration*
- ✓ *Automatic Train Supervision Systems*
- ✓ *Communicati n B sed Train Control*
- ✓ *Project Management*

EDUCATION
B.S., Computer Science, Point Park College, 1985

PROFESSIONAL CREDENTIALS
None

PROJECT EXPERIENCE

Rail Car and Signal Program, Port Authority Trans Hudson (PATH), New York, NY: Systems Engineer responsible for developing Technical Specification requirements for software-based systems and ATS systems, ensuring that best practices for communications-based train control systems were incorporated into the ATS design package for PATH, and working with designers and PATH to ensure that software requirements and ATS requirements were integrated amongst all sections of the specification.

Jubilee Line Resignaling Program Assessment (Lead Assessor): Traveled to field and factory sites to assess the progress to-date of the resignaling software development and field T&C activities. Reviewed manpower allocations across the T&C activities. Reviewed performance of T&C and software development with regard to actual verses planned accomplishments. Using data collected, projected project completion based on past performance given several resource-allocation scenarios. This information was used by Senior London Tubes Line management to rebaseline budgets and schedules for the remaining work to be accomplished.

Flushing and Second Avenue Communications-Based Train Control Project, MTA New York City Transit, New York, New York: Systems Engineer responsible for ensuring consistency of requirements between the Flushing Specifications and the design of the ATS-B System and for defining all software process requirements.

MTA Long Island Rail Road - East Side Access (ESA), Metropolitan Transit Authority, New York, New York: Control Center Lead Engineer responsible for development of the ESA Control System design, including specifications, drawings and cost estimates. Primary responsibilities included performing systems integration between the control center engineers and the other systems disciplines and architects, as well as being the interface to client during system design. The ESA Control System includes Train Control functions, as well as Supervisory Control and Data Acquisition (SCADA) and Building Management functions.

Automatic Train Supervision System for Subdivision B (ATS-B), MTA New York City Transit (NYCT), New York, New York: Project Manager responsible for the financial aspects of the project including budget and schedule management, cost reporting, subcontractor invoices, change order negotiations, and status reporting. Lead Engineer responsible for the development of the Technical Specifications for the ATS-B System and systems integration with other Capital Program projects within NYCT. The scope of the ATS-B project includes a Monitoring and Scheduling System for the existing fixed block operation which can then be expanded to integrate with future Communications Based Train Control systems. The system also includes a Voice Communications system, Projection Systems and interfaces to Decision Support Systems, Public Address/Customer Information Systems, and NYCT Reporting Systems.

Radio-Based Automatic Train Control-Communications Based Train Control (ATC-CBTC) for the Yonge, University, Spadina (YUS) Subway, Toronto Ontario, Canada: Systems Engineer and a member of the consultant team which developed the Technical Specifications for the ATC-CBTC system for the YUS Line. Was responsible for the design and development of the Technical Specifications for the ATS portion of the ATC-CBTC system and integration with other systems disciplines. Was responsible for assisting the Toronto Transit Commission in deciding on whether to procure a new ATS system for the YUS line or revise the existing Central Office Signal System (CSS). Assisted in vendor selection for the ATS System.

Passenger Communication System (PCS), New Jersey Transit (NJT), New Jersey: Project Manager/Lead Engineer responsible for analyzing the software requirements for the Passenger Communication System and developing a Software Requirements Specification for the PCS. Interfaced directly with the client to derive requirements and to develop strategic architecture whitepapers to guide the system design. The requirements analysis process included identification of modifications to be made to legacy systems as well as PCS requirements. Also provided recommendations on the NJT system architecture as it relates to legacy and new systems that will interface to PCS. Performed Project Management duties, including management of the budget, schedule and scope.

EMPLOYMENT HISTORY

2009 – Present: Delcan Corporation, Systems Engineering Manager – Rail/Transit
1997 – 2009: Parsons Corporation, Systems Manager
1985 – 1997: Union Switch and Signal, Pittsburgh Pennsylvania, Software Manager/Software Engineer

Ms Parsons' Relevant Expertise at a Glance

- ✓ *Staff Recruiting*
- ✓ *Full life cycle recruiting*
- ✓ *Employment law*
- ✓ *Employment best practices*

Martha Parsons – Staff Recruitment Specialist (if required)

EDUCATION

- B.S., Psychology (Industrial/Organizational emphasis), Old Dominion University, 1984.

PROFESSIONAL CREDENTIALS

None

PROJECT EXPERIENCE

Delcan Corporation Human Resource Manager: Martha Parsons is responsible for the Delcan Infrastructure National Practice Recruiting, On-Boarding and Human Resources activities. These activities include defining requirements, sourcing, interviewing and on-boarding of staff at all levels of the organization. Ms. Parsons interfaces regularly with the Delcan Corporate office throughout the on-boarding process as well as with new hires to ensure that they are well acclimated into the organization. Other activities include development of new Hire announcements, policy development, performance appraisal coordination, records management, and necessary Immigration activities for the DINO group. Ms. Parsons ensures that the DINO division is compliant with EEO, OFCCP and other employment law regulations.

SilverHeart Recruiting Services: Ms. Parsons provides recruitment consulting services for Service-based Technology companies. Clients range from small start-up organizations to large International organizations. Services include all phases of the recruitment lifecycle resulting in reduced time to hire and reduced cost per hire. Ms. Parsons also conducts retained and contingent search services for large international and small locally based companies (positions range from Vice President to proposal coordinator). She advises Executive and Senior Management of Employment best practices, conducts Market research on Recruiting Systems, Services and Best Practices, establishes Recruiting programs such as Employee Referral, College Relations, and Alumni as well as develop and implements Recruiting Strategies.

Iditarod Systems/Vibrant Institute: Ms. Parsons established a formal Recruiting Process for 18-month Start-up Company. She was instrumental in doubling the company size in first 3 months. Responsibilities included sourcing, recruiting, screening, interviewing and hiring System Architects/Developers (JAVA, J2EE, ASP, C#, .Net) for Identity Management implementations of WAVESET for Commercial and Government Clients. She developed and trained Technical staff on Interviewing Skills, Re-negotiated Benefits program and participated in NVTC and Washington Post Recruiting events as well as managed advertising and applicant flow.

Booz Allen & Hamilton: .Ms. Parsons was invited by the Director of Recruiting to design, develop and implement an Alumni Recruiting Program for the World Technology Business. The Program was called the "ComeBack Kid" program. Established highly successful campaign and program increasing alumni hiring from 2% to 8% in first quarter of implementation. Developed web site for internal use outlining critical needs and describing changes to the program. Hosted Alumni Events at various sites to reacquaint previous employees with Booz Allen. Re-engineered the Employee Referral Program for the World Technology Business. This process included time and motion studies, technology enhancements, and significantly improving the overall image of the program particularly for the Booz Allen referring employees. Employee referral success rate increased continuously throughout the year. Re-vamped web site

to improve usability and clarity of site. Managed team of 4 and one summer intern. Worked closely with the Recruiting Management Team to develop advertising campaigns to increase recruiting visibility needs.

Idea Integration: In her role as Director of Human Resources Ms. Parsons developed and implemented recruiting programs and budgets for regional and national Human Resource/Recruiting divisions. She instituted all Human Resources policies and programs firm wide and grew the National practice of Idea Integration 450% in the first 3 quarters of 2000. She opened and hired employees for offices in Dallas and Atlanta and trained and developed Human Resources and Recruiting staff. She also created Recruiting and Branding programs.

RJO Enterprises: Ms. Parsons trained recruiting staff, administered and executed Reduction-in-Force programs, developed staffing plans, oversaw all hiring and managed the College Recruiting Program.

EMPLOYMENT HISTORY

2007 – Present:	Delcan Corporation, Human Resources Manager
2004 – Present:	SilverHeart Recruiting Services, President & CEO
2003 – 2004:	Iditarod Systems/Vibrant Institute, Director of Recruiting
2003 – 2003:	Independent Human Resources, Recruiting Consultant
2002 – 2002:	Booz Allen & Hamilton, Recruiting & Management Consultant
1995 – 2001:	Idea Integration, Director of Human Resources and Recruiting
1992 – 1995:	Booz Allen & Hamilton, Senior Recruiter
1991 – 1992:	RJO Enterprises, Manager of Human Resources
1989 – 1991:	Oracle Corporation, Manager Human Resources & Administration
1984 – 1989:	SHL Systemhouse Inc., Senior Human Resources Administrator

Mr. Arato's Relevant Expertise at a Glance

- ✓ *Field Work Assessment*
- ✓ *Support System Development*
- ✓ *Work Progress*
- ✓ *Report Generation*
- ✓ *Production Estimating and Forecasting*

Mike Arato – Field Coordinator (Secondary)

EDUCATION
AAS, Construction Technology, New York City Community College

PROFESSIONAL CREDENTIALS
None

PROJECT EXPERIENCE

Atlantic Yards, Long Island Rail Road Vanderbilt Yard Relocation, Brooklyn, NY: As a Field Coordinator, Mr. Arato's responsibilities included project oversight including resource allocation and the supervision of project personnel. Responsibilities also included the review of budget forecasts, field audits, inspection reports and other data to ensure that the project was properly staffed and remained on time and within budget. The scope of this $300 million infrastructure project includes new track, switches, traction power and substation, upgraded signal system, toilet servicing and structures as well as the demolition and replacement of the Carlton Avenue bridge, replacement of perimeter retaining walls, installation of foundations to support a future overbuild, site and street utility relocations, and a cut and cover tunnel under Atlantic Avenue. The work is phased to allow continued LIRR operations in the yard.

Puerto Rico Highway and Transportation Authority, Tren Urbano Project, PR: Mr. Arato served as Special Consultant to the Project Director, responsible for providing oversight of all systems construction to be completed by contractors prior to the start of revenue service. As Field Coordinator, provided for all track, third rail and power installations on the $2.3 billion Heavy Rail Transit System. Focused on quality assurance, systems integration and schedule adherence by the DBOT team. The project consisted of the design and construction of Direct Fixation Track; Special Track ballasted Track and Storage Yard track age. Required 100,000 linear feet of main line track and third rail to be installed.

Amtrak Sunnyside Yard High Speed Rail Facilities, Queens, NY: As Construction Manager, managed new service and inspection facilities for Amtrak's new Northeast Corridor high speed rail vehicles. Also managed electrification at Sunnyside Yard, as well as the Southampton Yard in Boston and the Ivy City Yard in Washington, D.C.

Metropolitan Transportation Authority, East Side Access Project, NY: As Construction Manager, performed existing infrastructure evaluation of LIRR Tunnels in Queens and Manhattan, NY.

Schiavone Construction Company, NY: As Project Manager, responsible for projects including the Nassau Loop track/switches rehabilitation, the Flatbush Avenue Line rehabilitation project, the Canarsie yard expansion and switch rehabilitation, Penn Station track rehabilitation (LIRR), and the NYCT 180th Street Yard Rehabilitation.

Penta Construction Corporation/E. Goldman, NY: As Chief of Operations, held responsibility for all aspects of construction including 18 projects for NYCT, as well as rail transportation projects for MARTA, the Greater Cleveland Transit Authority, MetroNorth Railroad, and LIRR. Managed construction of a flyover and modifications to track and switches at NYCT's 207th Street Yard, enabling trains from the IRT system to access the yard for the first time. Also

managed construction of trackage on the West Extension to High Street Station and the South Extension to West Point, for the MARTA.

Bonaco Construction Corporation, NY: Served as Project Superintendent for the construction of the PATH system to the World Trade Center.

EMPLOYMENT HISTORY

2008-Present	McKissack & McKissack, Project Superintendent
2003-2008	Puerto Rico Highway and Transportation Authority, Special Consultant to Project Director
2002-2003	DMJM + Harris, VP Principal
1998-2002	STV Consultants, Construction Manager
1995-1998	Fidelity & Deposit Insurance Corp., Claims Liaison
1994-1995	M-Track Construction, Construction Manager
1987-1994	Schiavone Construction Company, Construction Manager
1977-1987	Penta Construction Corp., VP, Chief of Operations
1970-1977	Horn Construction Corp., Division Manager/ Project Superintendent
1968-1970	Bonaco Construction Corp., Project Superintendent
1966-1968	Long Island Rail Road, Project Engineer
1963-1966	NYC Transit Authority, Junior Engineer

Ralph Drewes – Plan Coordinator (Secondary)

Mr Drewes' Relevant Expertise at a Gl nce

- ✓ *Budget Management*
- ✓ *Staff Management*
- ✓ *Project Coordination*
- ✓ *Resource Request Review*
- ✓ *Cost Controls*
- ✓ *Maintain Work Request Database*
- ✓ *Construction Supervision*

EDUCATION
Degree in Construction Technology, New York City Community College

PROFESSIONAL CREDENTIALS
None

PROJECT EXPERIENCE

Atlantic Yards Long Island Rail Road Vanderbilt Yard Relocation, Brooklyn, NY (Project Superintendent): As Project Superintendent, Mr. Drewes' responsibilities included the supervision of project staff, oversight of construction planning and negotiating with the LIRR on behalf of the developer on all design, construction and railroad operation aspects of this $300 million infrastructure project. The scope of the project includes new track, switches, traction power and substation, upgraded signal system, toilet servicing and structures as well as the demolition and replacement of the Carlton Avenue bridge, replacement of perimeter retaining walls, installation of foundations to support a future overbuild, site and street utility relocations, and a cut and cover tunnel under Atlantic Avenue. The work is phased to allow continued LIRR operations in the yard.

North Star Contracting, New Rochelle, NY (Construction Supervisor): As Construction Supervisor, Mr. Drewes oversaw:

- Relocation of overhead catenary wire and structure over Amtrak Right of Way, Bronx, NY;
- Reconstruction of the South Avenue Bridge and the Greaves Avenue Bridge in Staten Island, NY;
- Demolition and reconstruction of Faille and Barretto Street Bridges in the Bronx, NY;
- Rehabilitation of QueensBoro Bridge's South Upper Roadway Reconstruction;
- Main Span Outer Roadway Reconstruction of Williamsburg Bridge (7 months ahead of schedule;) and
- Rehabilitation of 57th Street ramp and demolition of Miller Highway.

Cab Associates, Long Island City and College Point, NY (Construction Supervisor): As Construction Supervisor, Mr. Drewes oversaw the $25 Million Interstate-278 Brooklyn-Queens Expressway improvement project. As Superintendent, Mr. Drewes coordinated the construction of a $34 Million residence hall complex at SUNY Old Westbury. Also involved in the $28 Million Herrick Road Grade-Elimination Project for the Long Island Railroad.

Van Tulco, Inc., Port Washington, NY (Construction Supervisor): Mr. Drewes managed jobsite Superintendents and Field Personnel, in addition to acting as liaison between the home office and various State and City Agencies for the $4.2 Million rehabilitation of the Dorchester Bridge over the BMT Subway.

Petracca & Sons, Jamaica, NY (Construction Supervisor): Mr. Drewes oversaw the completion of the $9 Million rehabilitation of the Relieving Platform for the FDR Drive between 42nd and 54th Streets.

Tern Construction Corporation, Brooklyn, NY (Construction Supervisor): Mr. Drewes supervised land clearing, utility installation, road construction, foundation and framing work for the $11 Million Manitou Townhouses in Wayne, NJ. He oversaw the on-time completion of all structural work required for the $22 Million modernization of the (old) New York Yankees Stadium. As Construction Supervisor, he directed the construction of a $10 Million foundation and superstructure for Queens Plaza Garage.

EMPLOYMENT HISTORY

2008 – Present: McKissack & McKissack, Project Superintendent
1999 – 2007: North Star Contracting, Construction Supervisor
1993 – 1999: Cab Associates, Construction Supervisor
1988 – 1993: Van Tulco (Tully Construction), Construction Supervisor
1986 – 1988: Petracca & Sons, Superintendent
1980 – 1986: North Star Contracting, Construction Supervisor
1972 – 1980: Tern Construction Company, Construction Supervisor

Sergey Kogan, EIT – Cost Engineer (Secondary)

Mr. Kogan's Relevant Expertise at a Glance

- ✓ *Budget Projection Analysis*
- ✓ *Contract Document Review*
- ✓ *Facility Force Cost Estimation and Review*
- ✓ *Diverse Technical Expertise*

EDUCATION

MS, Civil Engineering, Israeli Institute of Technology (Technion), Haifa, Israel;
BS, Civil Engineering, Institute of Civil Engineering, Moscow, Russia

PROFESSIONAL CREDENTIALS

None

PROJECT EXPERIENCE

New York City Metropolitan Transit Authority, Second Avenue Subway, New York, NY: Serving as Senior Estimator, Mr. Kogan was responsible for updating quantities for 60% design estimates for 96th and 86th street stations; coordinated with the design group to resolve any issues and provided cost updates for Phase #1 estimates for 72nd Street Station; collaborated with design team to develop cost savings for different areas of the station; provided cost analysis of changes to the stations for client meetings; evaluated planned stations concept changes; developing bid unit cost prices for new items to be incorporated in the estimates; analyzed and reviewed existing bid unit cost prices; supported schedule updates through constructability reviews, contributing to construction schedule improvements.

New Jersey Transit Traffic Impact Study, Proposed TransLoad Facility, Hudson County, NJ: As Senior Transportation Engineer, performed traffic impact studies and cost estimates and developed improvement recommendations for traffic operations to mitigate adverse impacts.

Port Authority of New York and New Jersey, Newark International Airport Terminal B Modernization, New York, NY: As Senior Transportation Engineer, Mr. Kogan was responsible for the preparation of final construction documents. Subject matter included traffic signal, signing, striping, maintenance and protection of traffic design

Port Authority of New York and New Jersey, Various Terminals at JFK, LaGuardia and Newark Airports, New York, NY and Newark, NJ: As Senior Transportation Engineer, performed terminal frontage analysis, traffic circulation improvement study, and determined proper location and design of different frontage elements.

Port Authority of New York and New Jersey, JFK's American Airlines Terminal Redevelopment, New York, NY: As Senior Transportation Engineer, provided comprehensive traffic surveys.

Port Authority of New York and New Jersey, Jamaica/JFK Airport Access Study, New York, NY: As Senior Transportation Engineer, analyzed existing traffic operation and transportation system characteristics for proposed BRT routes.

New York State Department of Transportation, Cross-Bronx Expressway Lighting Project, New York, NY: As Senior Transportation Engineer, prepared temporary and final sign design.

New York State Department of Transportation, Gowanus Expressway Viaduct Final Design Phase & Bronx Whitestone Bridge, New York, NY: Working as Senior Transportation Engineer, developed Third Avenue

intersections signal modification plans in accordance with NYCDOT and NYSDOT current standards for the Gowanus Expressway.

EMPLOYMENT HISTORY

2007 – Present: PACO Group
2005 – 2007: SIMCO Engineering, P.C.
1999 – 2005: Gannett Fleming, Inc.
1997 – 2008: Silvan Ratovich, (Tel Aviv, Israel)
1989 – 1991: Unionchimstroi, (Moscow, Russia)

Mr. Dell'Isola's Relevant Expertise at a Glance

- ✓ *LCC Savings Implementation*
- ✓ *Facility Force Cost Evaluation Analysis and Advisement*
- ✓ *Value Engineering & Risk Analysis Expertise*

Alphonse Dell'Isola, P.E. – Value Engineering/Constructability Specialist (if required)

EDUCATION
BS, Civil Engineering, Massachusetts Institute of Technology;

PROFESSIONAL CREDENTIALS
Professional Engineer & Certified Value Specialist

PROJECT EXPERIENCE

Gilbane Company, Long Island, NY: Serving as a *VE Consultant*, Mr. Dell'Isola was responsible for conducting a VE study and constructability reviews for the proposed National Synchrotron Light Source II for the National Brookhaven Laboratory in Long Island, NY. Approximately 35 proposals were generated with direct input from the owner and design team. Savings of over $50 million dollars were considered by the BNL as viable actions.

Port Authority of NY and NJ, New York, NY: Served as VE Coordinator for a VE study on "The Tunnel." The project called for 6 new transit lines from Newark, NJ to Penn Station, NYC. Project included a new Transit Station at 34th Street, NYC with connections to the existing Penn Station. Project costs were estimated at over $7 billion dollars. VE study generated 28 proposals with potential savings exceeding $1 billion dollars with potential schedule savings exceeding a year.

World Trade Center Vehicle Security Center, New York, NY: Served as VE Coordinator, responsible for conducting VE study and workshop as well as constructability reviews. Project costs and schedule were adversely affected by the market and the complexity of the project. VE team generated over 100 ideas from which 24 proposals were developed. Potential savings of over $100 million were generated with significant schedule reductions. Study was unique in that in order to meet owner cost and schedule objectives, team needed to seek criteria relaxation in two key areas.

Lower Manhattan Construction Command Center, New York, NY: Served as VE Team Coordinator in a Value Planning study. Approximately 60 worldwide experts were assembled for a three week study on the proposed construction projects for lower Manhattan over the next 5-6 years. Rough estimates of the 30 projects totaled over $25 billion dollars. Efforts focused on the following objectives; isolate future significant high risk areas and then prepare mitigation ideas that would reduce risks to a more acceptable level. In final phase of planning, the best mitigations were selected and were evaluated for schedule impact. Findings were summarized into draft report and later presented to top management. Based on recommendations, approximately 2-4 year potential schedule reductions are possible.

Transportation Hub, World Trade Center, New York, NY: Served as VE Specialist, responsible for conducting a value engineering study and constructability reviews on preliminary documents. 80 proposals were presented totaling in excess of $200 million dollars to the WTC staff for implementation action. Through these efforts the project was approved for Federal funding. Project budget was $2.2 billion dollars.

East Side Access Project, New York, NY: Served as VE Specialist, responsible for conducting a value engineering study and constructability reviews for project connecting eight tubes of rail service from Long Island to an addition to

the Grand Central Terminal in NYC. Project costs $4.5 billion dollars with savings from six studies exceeding $350 million dollars.

Port Authority of NY and NJ, Terminal Expansion at LaGuardia Airport, Queens, NY: Serving as VE Specialist, Mr. Dell'Isola was responsible for conducting VE studies that involved implementing LCC savings up to 10%.

Dulles Rapid Transit Project, Washington, DC: Served as VE Specialist, responsible for conducting value planning studies. Project consisted of 23 miles of track and 11 Stations estimated at $3.5 billion dollars. Results of value planning were project enhancements and estimated savings of $200-$300 million dollars.

EMPLOYMENT HISTORY

Throughout Mr. Dell'Isola's diverse and lengthy career he has been instrumental in introducing VE Programs in over 40 countries, 40 government agencies and 40 large corporations. His New York Value Engineering experience includes the Modernization of Times Square Subway Complex, the City Hospital Center at Elmhurst, Queens, World Bank Operations at the World Trade Center, the North River Waste Water Treatment Plant, the Newtown Creek Water Pollution Control Program, the Lower Manhattan Detention Facility, the Bronx Criminal Courts Facility, the International Arrivals Building at JFK Airport, Brooklyn's Prospect Park Zoo and the Solid Waste Unloading Facility on Staten Island.

Mr. Sanchez's Relevant Expertise at a Glance

- ✓ *Schedule Development and Maintenance*
- ✓ *Project Cost- Compliance System Implementation*
- ✓ *Force Estimate Preparation*

Carlos Sanchez – Scheduler (Secondary) / Cost Controls Engineer (if required)

EDUCATION
Construction Management Diploma, New York University
BS, Civil Engineering, Central East University

PROFESSIONAL CREDENTIALS
Licensed Professional Engineer

PROJECT EXPERIENCE

Various Projects, PACO Group, Inc., New York: As Assistant Vice President of Technical Services, Mr. Sanchez is responsible for managing the PACO Group's Technical Services Division and all related staff, work product, and projects assigned to Technical Services. He is the practice leader for Project Controls (Estimating, Scheduling, Cost Control), and manages all temporary project assignments on an as-needed basis throughout the U.S. and abroad. As the liaison with clients and others, he ensures that the best project support and service is delivered and attends all project progress meetings. He provides estimating services that include reviewing owner developed preliminary and bid cost estimate for heavy and civil construction; including Airports, Stadiums, Roadways, and Park and Recreation; reviewing proposals from contractors and to ensure compliance with contract documents; reviewing budgets, perform cost impact analysis; review and perform independent cost estimates for Change Orders, and develop detailed take-off and cost estimates for new and rehabilitation projects.

Port Authority of New York and New Jersey, JFK AirTrain, New York, NY: Served as Scheduler to the Airport Access Program, an 8.4-mile people mover system linking the airport's nine passenger terminals to one another, rental car areas and long-term and employee parking, and to the Long Island Rail Road and New York City subway system. Carlos provided CPM Scheduling services, and analyzed schedule updates to determine whether the downstream impact of any delay affected a milestone by any more than ten days. A similar analysis was used to pinpoint the source of any negative float. He presented recommendations in a combination of narrative reports and Level I, II, and III schedules, where the greatest level of detail was used to illustrate where change was needed, and the summary level of detail to indicate how the overall schedule was impacted.

New York State Department of Transportation, Tappan Zee Bridge/I-287, New York, NY: Working as Cost Estimator, Mr. Sanchez developed the cost estimate for the six preliminary transportation modes alternatives analysis in the Draft Environmental Impact Statement (DEIS). The Corridor extends 30 miles between the Village of Suffern in Rockland County and the Village of Port Chester in Westchester County. The counties are linked by the Tappan Zee Bridge (TZB) over the Hudson River. Transportation, environmental and cost criteria were developed in order to assist in making the transit mode decision.

New York City Metropolitan Transit Authority, Five-Year Capital Construction Program, New York, NY: As Scheduler, Mr. Sanchez was tasked with a project to complete renovations and rehabilitations of 50+ Subway Stations ($200 million). The program included improving and adding new entrances on the northern side of the Times Square station complex in coordination with NYCDOT. Other work included improving ADA accessibility at 17 key stations, replacement of 25 escalators at four stations, and new passenger transfers at Bleecker Street in Manhattan and Jay Street in Brooklyn.

As Senior Scheduler, he prepared design and construction schedules for projects in the New York City Transit Authority's five-year Capital Construction Program. He reviewed schedules and reports prepared by General Contractors, and provided narrative-analysis of schedule reports.

EMPLOYMENT HISTORY

2008 – Present PACO Group
2008 – 2008: URS Corporation
2007 – 2008: McKissack + McKissack
2006 – 2006: URS Corporation
1999 – 2005: PACO Group
1997 – 1999: The LiRo Group
1996 – 1997: NCI, Inc.
1994 – 1996: Self-Employed Civil Engineer
1989 – 1994: The City of New York
1988 – 1989: Construction Technologies, Inc.

F. Technical Approach

F.1. Understanding of the Issues and Needs of PATH

The Port Authority Trans-Hudson Corporation (PATH) is undertaking a Capital Program to provide improvements to its existing system to ensure service reliability, safety, and adequate capacity to meet future demands. The Capital Program is comprised of a number of projects including:

- World Trade Center Transportation Hub and Permanent PATH Terminal, and Memorial
- Security Program Implementation
- New Car and Signal Programs
- Station Modifications
- State of Good Repair
- Rehabilitation and Extension of Platforms to accommodate 10-Car Trains

The Capital Program, in addition to PATH's on-going maintenance activities, will place a significant demand on PATH's resources, including its facility forces, track access for construction, staging facilities, and rail cars and equipment. PATH undertook a study to confirm and determine the extent of the demands on PATH's resources, and to provide recommendations. This study is documented in the Draft Comprehensive Logistics Plan, dated September 2009. As a result of this effort, PATH is establishing a "Logistics Planning Group" (LPG) to oversee coordination of the various projects and the resources.

PATH requires a Consultant to provide expert professional planning, oversight, and related program/project management support services to PATH's Logistics Planning Group on a "call-in" basis during 2010 through 2014. The selected consultant will conduct oversight and analyses in the planning, coordinating, scheduling and monitoring of the logistics planning efforts required for the successful and timely delivery of the PATH Capital Program.

To properly identify, plan and manage the resource demands of the program, PATH needs a comprehensive plan for the delivery of the Capital Program so that the required resources can be identified, procured, allocated, and deployed in a timely and efficient manner. As part of that effort, the following is required:

- detailed, resource-loaded construction schedules to be incorporated for all major Program elements into a Master Schedule that needs to be updated on an on-going basis;
- the ongoing coordination of requests for "track access rights" to provide early identification and coordination of potential conflicts among the Program elements and PATH's ongoing maintenance and operations;
- the identification of any additional resources that may be required to support the Capital Program; and
- ongoing monitoring of progress to better plan for future work and staffing support.

The three main elements required by PATH are:

1. Ongoing Logistics Planning Support including progress oversight and analysis of resource needs;
2. Detailed Project and Master Program Scheduling; and
3. Related Support Services including management of studies, estimations of costs for PATH facility force support and provision of field personnel as needed.

The success in meeting these needs is to a large extent dependent on resolving the issues brought forth during the interviews conducted with PATH department staff and documented in the Draft Comprehensive Logistics Plan. Some of the relevant issues that should be addressed during the execution of McKissack+Delcan's efforts, if not already undertaken, include:

- developing effective processes to easily identify conflicts, standardize the methods of prioritizing projects, and provide improvements to the track access rights assignment;

- improvements in Capital Program communications and information sharing among the PATH departments;
- adopting standard methods for resource cost estimating; and
- facilitating involvement in the decisions made during the design phase, to help mitigate claims during construction by being able to plan the resources more appropriately.

Ultimately, PATH requires the services of a consultant that understands the risk areas, the means of mitigating those risks, and the expertise to coordinate the demands of a large program on PATH operations and its limited resources. McKissack+Delcan has this capability, experience, expertise and proven record of success to meet these needs.

F.2.Our Approach

In order to meet the needs of PATH during its demanding Capital Program, on-going maintenance and other construction projects, McKissack+Delcan will structure its approach and conduct the work in a planned, systematic way. Our team will apply its efforts in a proactive manner through the use of risk management, process optimization and thorough due-diligence, combined with our technical expertise.

Due to the extreme resource demands placed on PATH during the Capital Program, and the inherent competing interests of its projects, PATH needs a consultant who has the expertise to effectively monitor the technical issues, priorities and impacts of the Capital Program projects. McKissack+Delcan will meet this need by employing its expertise in transit operations, capital program management, scheduling, cost engineering and risk management. In addition, we will bring our innovative and proven process and related technology approaches to help enable PATH to deal with the Capital Program demands in an effective and efficient manner.

F.2.1. Initial Planning

Our team understands that one of the most important keys to success in the execution of our management services is adequate planning and communications. It is important to have tools and processes that will manage “communication” in the most effective and efficient manner. Upon receipt of our Notice-to-Proceed (NTP) we will undertake a series of activities to properly plan for the work, as well as developing processes and accompanying tools that aide in the communication amongst all parties and provide visibility. These activities include the following:

1. We will review the list of priority projects as defined in the Draft Comprehensive Logistics Plan with PATH to ensure that priorities have not changed over time. We will then analyze the requirements for staging facilities, track access, PATH rail cars and equipment, and facility force staff based on these priorities.
2. Meetings with the project teams (Capital Program project management staff and appropriate staff from PATH) to review schedules, interface issues, potential risk areas, contract changes submitted for approval, contractor progress performance, up-coming final bid package submittals, etc. at the start of our Contract. These issues will also be consistently reviewed and discussed through a series of regular meetings.
3. Our team will meet with PATH to discuss the Comprehensive Logistics Plan to verify PATH’s opinions on its degree of relevance to the current situation, and to clarify areas where we have questions. Our team can provide an update to this document with the newly acquired information, if desired by PATH, as it forms the basis for our scope of work.
4. McKissack+Delcan will develop and submit a Work Plan to PATH for approval. The Work Plan will take into consideration any new pertinent information from the discussions and fact gathering during the above noted activities. The Work Plan will govern the procedures to be followed by our team, as well as incorporate proposed processes and procedures that relate to the scheduling and coordination effort, and integrate the necessary PATH procedures. Processes and procedures proposed by McKissack+Delcan will be the result of our review of the on-going logistics coordination effort required, and how that can best be approached in an optimal way that benefits all parties involved while being consistent with PATH policies, existing procedures and requirements.
5. Upon approval of the Work Plan, including our processes that govern coordination, progress reporting, master schedule updates and communication, the development of our database applications shall commence, as described in sub-section F.3.1 of this proposal. This database application will form the basis for much of the action based communications of our team and designated staff for PATH and the Capital Program management. As part of this effort, we will automate process communications through the use of the database application that

will enable the completion, submission and approval of forms such as the track access requests. In this example, the application would show who and what project has made the request, what track access is required, dates and other information, and the "under review" or "approved" status of the request. Other similar processes concerning coordination, and review and comment, will be included, as described further in sub-section F.3.1.

The remaining sub-sections below describe our approach in a structure similar to that provided in the RFP.

F.2.2. Task A – Coordination of PATH Track Access

A key task to be provided by our team is the coordination of PATH track access including access requirements of PATH maintenance and construction projects, and the Capital Program. As stated in the above task, we intend to automate some of the process involved in the track access coordination by implementing functions within our proposed web-enabled database application that is described in sub-section F.3.1 of this proposal. Subject to acceptance by PATH, the PATH – Track Access Request Form can be incorporated into our proposed web-enabled database application to help automate requests and approvals and collect the necessary information to update schedules and activity logs within the database application itself. Paper and stand-alone electronic file versions can still be accommodated under this scenario. Change in status alerts can be incorporated into the application so that the appropriate staff can be automatically alerted to changes as they are received.

The early implementation and periodic maintenance of the database application will be conducted by our part-time Database Developer, Mike Bukata.

The activities involved in the track access coordination effort are described as follows:

1. Monthly track access requests for all Capital Program projects and PATH construction and maintenance activities will be obtained on a continual basis. Our team will implement a track access request function in the database application so that the completion and submission of forms can be easily performed, with automated email alerts sent to the appropriate reviewers.
2. The team will participate in weekly PATH Transportation Division track access rights meetings. Information will be obtained to help finalize upcoming work plans and resource allocations. Because the completed and submitted forms and reports will be web-accessible through the database application, all relevant parties with access can review the requests and identify conflicts prior to the meeting. The track access request data concerning the project, track locations, work activity, timing, and other pertinent information, will be compiled from the database and brought to these meetings for background material to the discussions.
3. A review and prioritization of monthly track access requests into a single track-usage plan will be conducted. This will be done through the database application. Risks associated with the activities and timing of track access relative to the specific project, as well as other projects, PATH maintenance activities and PATH operations will be carefully considered during the evaluation and determination of priorities. These risks can be partially pre-determined by using database attributes determined by factors such as track location, day of week, type of activity and past contractor performance.
4. A monthly track-usage plan will be updated to reflect any changes. Changes due to schedule modifications and approved contract changes will be considered and appropriately accounted. This information will be also used as an input to the updates of the Master Schedule and the schedule leveling efforts, and as input to progress performance tracking that is used to adjust risks associated with specific activities and contractors. Most of the required data can be easily entered, tracked and retrieved from the database application.
5. All track access requests received by the LPG will be documented and tracked in an activity log. The log will be housed in the database, and available for view by all users pre-designated by PATH.
6. Daily progress reports will be solicited by the Field Coordinator(s) for updating the activity log using the database.

F.2.3. Task B - Coordination and Evaluation of Schedules

The coordination and evaluation of schedules is critical in the role of coordinating the demands on PATH in a proactive manner. This task involves the following:

1. Design and construction schedules from all projects included in the Capital Program will be solicited and obtained. In addition, PATH maintenance and construction schedule information will be obtained. Updates to these schedules

will be solicited on a regular monthly basis, in addition to obtaining all construction project look-ahead schedules.

2. The design and construction schedules proposed will be analyzed to identify the support-resources needed for the delivery of the Capital Program, and potential conflicts with other proposed work undertaken by PATH. Ideally the proposed construction schedules developed near the completion of the project designs for the Capital Program will be reviewed in detail for consideration and comment on the timing and demands of PATH resources. Comments on the constraints and applicable language to be used in the bid documents will be provided, so that contractor expectations are properly managed.
3. It is anticipated that detailed construction schedules of PATH facility force resource loading, track access, and rail car and equipment use will be developed by our Scheduler and updated on a regular basis. The information required to complete this activity will be the result of the two above noted activities of this task. Risk analysis and project prioritization will be conducted in addition to project schedule leveling and the use of resource histograms to develop accurate and realistic schedules. Careful attention will be made to the linkage between the schedule critical path, activity float durations and the assessed risks, as they relate to the impact on PATH resource allocation and operations.
4. A Master Schedule of construction of all projects of the Capital Program will be developed and updated on a regular basis. The existing draft Master Schedule will be used as the basis in the development of a revised/adopted version. In addition to regular updates, look-ahead schedule reports will be provided for period durations that best suits the PATH departments' purposes. Assessments of the impacts of the revised schedules, contract changes, program scope modifications on available and planned resources will be thoroughly conducted prior to finalizing the updates to the Master Schedule. The activities of systems integration for all the various projects will be an important area that the team takes into consideration. This is an area where individual projects often underestimate the durations involved and the resource commitment required of the agency. Enhanced focus in this area is a practical means of proactively determining the potential of any aggregate set of delays that could have a significant impact to the Capital Program.
5. Due to the potential impact, our team will review in detail, the Test and Commissioning Plans of the projects. This will give us the details of what tests will be performed, the timing of the tests, the pre-requisites and other issues such as how many work trains are needed, whether the entire line is needed or only a few locations, the number of flagging staff required, etc. This will allow us to understand the schedule and give us a heads up to the extent and details of PATH resource needs during the testing and commissioning of the various projects.

Due to its critical nature, as soon as NTP is received, the design and construction schedules information will be obtained and the development of a Master Schedule will commence at the same time that other planning activities (described in sub-section F.2.1 of the proposal) occur.

F.2.4. Task C - Evaluation of PATH Facility Force Requirements

The size of the Capital Program will place a significant demand on PATH facility force staff throughout the 5 year period. PATH, with assistance from McKissack+Delcan will need to properly manage these demands in a proactive manner so that the Capital Program and PATH's other work is not impacted. In doing so, PATH will need to take necessary steps such as hiring additional staff, based on accurate information with sufficient lead time. McKissack+Delcan will use the information and analysis performed in Task A and Task B, along with on-going progress monitoring, to provide advice that will enable PATH to take the right steps at the right time. Some of the activities involved in the evaluation of PATH facility force requirements are as follows:

1. McKissack+Delcan will analyze the planned construction activities and the Test and Commissioning Plans of the relevant projects to determine the short term and long term needs for PATH Facility Force staff. The findings will be analyzed against the schedule to ensure it is understood what types of resources are required and when. All requests will be tracked for all projects within the database in order to determine the types and quantities of staff needed on any particular date. This data can be compared to the availability of staff to determine if there are any shortfalls and whether supplemental staff are required. This analysis will be performed early for each project and at

the Program level to provide adequate time to determine whether supplemental staffing is required.

2. Staffing requirements will change due to changes in project schedules, contracts and requirements. Therefore the McKissack+Delcan team will monitor the Program scope and schedules on a regular basis and incorporate any changes into the Force Staff Plan. Areas of risk to the Capital Program and prioritization including the availability of appropriate PATH facility force staff will be carefully considered in this analysis. As stated above, inputs to this analysis will come from the activities in Tasks A and B.
3. From the analysis performed in the above described activity, estimates of the PATH facility force staff resource utilization, timing and associated costs relating to projects undertaken by outside contractors, will be conducted. Standardized resource costs will be used in the estimates, as agreed in advance with PATH.
4. Similar to the above, estimates of staff resource requirements, timing, and cost for construction activities performed by PATH facility forces, will be completed.
5. PATH staff project support and utilization will be monitored to determine modifications that may be required to support the timely completion of the Capital Program. This effort will be done in concert with the review of Capital Program and other PATH construction and maintenance work schedule updates. During regular meetings with PATH department staff, updates and status of resource allocation will be solicited and obtained by McKissack+Delcan.
6. Our team will assist the PATH's Management and Budget and Human Resources departments, when and as requested, in assessing staffing changes needed. Our team will help facilitate their efforts in procuring required employees, so that adequate support to the delivery of the Capital Program can be provided by PATH. We have included in Section E of this proposal, a resume of one of our recruiting experts that can also be utilized if required by PATH.

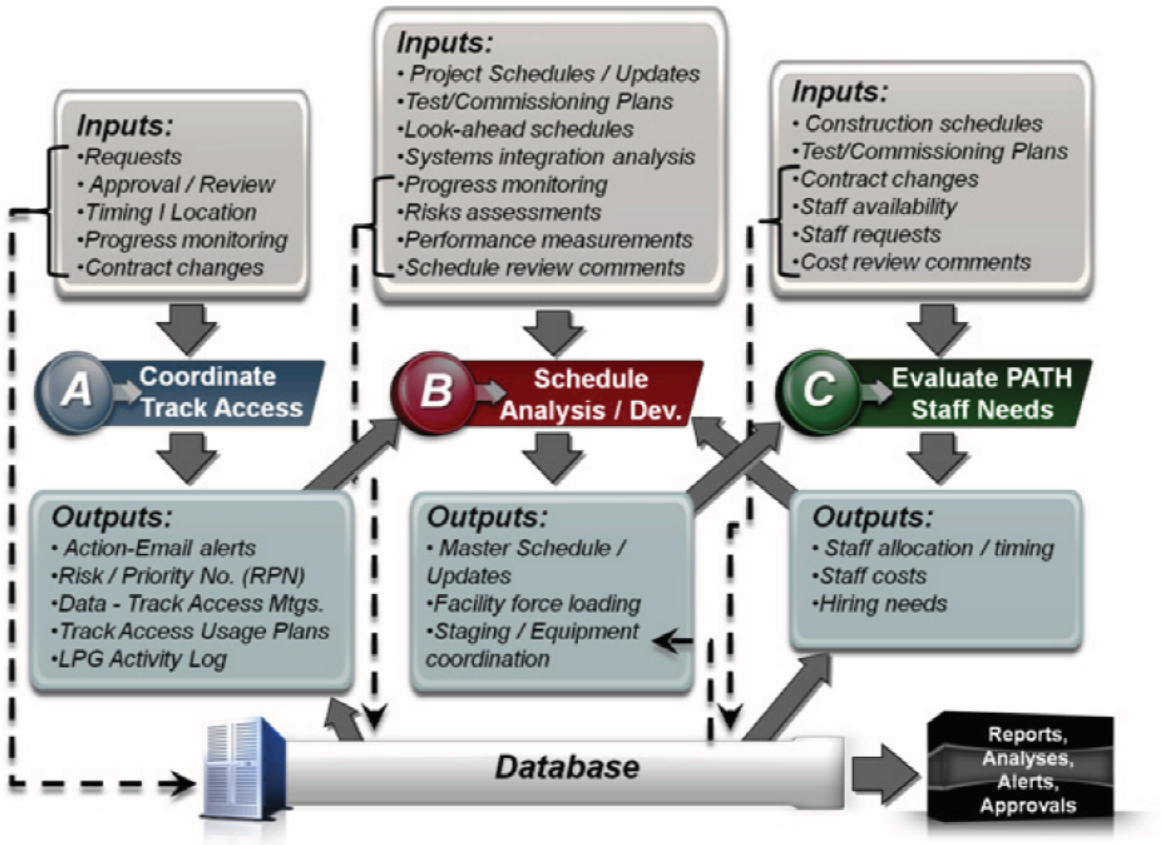


Figure F 1: Inter-relationship of Tasks A, B, C and the Database Application

F.2.5. Task D - Logistical Support

Our team has a depth of technical resources from over 900 staff from within the Joint Venture that can assist the Senior Planning Manager and other members of our team in the logistics support effort on an as needed basis. Thus, McKissack+Delcan can provide the expertise needed to support PATH in its logistics planning and management. Activities identified in the RFP include the following:

1. Our team can undertake the management of planning studies and investigative analyses. An example could be a wheel-rail interaction study. Our team will provide project management functions to deliver the results of these efforts in a timely and effective manner. Our available technical support staff can provide expertise in a number of areas that can help in the effectiveness of the management of these initiatives, as well as the execution in certain cases. McKissack+Delcan has experience in developing detailed technical analysis and presenting the results of these studies to senior management. This is one of the many roles that McKissack+Delcan is performing for the New York MTA as part of the Independent Engineering Consultant contract.

2. The key staff of our team, along with our available technical experts if required, will assist in the preparation of specifications, standards, contract language, and other bid package documents. Our effort in this area is understood to be focused on the provisions, constraints, and requirements associated with contractor's requests and utilization of PATH facility force staff, rail cars and equipment, and staging facilities. Our team has extensive experience in performing this type of work, from the TTC's Capital Program and the Rapid Transit Expansion Program, to list a couple of examples.

3. Our team will prepare detailed presentations, graphics, and other informational materials as required for internal and external use, so that the status and progress of the PATH Capital Program is presented in a clear, concise and professional manner.

4. McKissack+Delcan will provide field personnel, as required to support the timely delivery of the Capital Program. This includes staff in addition to the Field Coordinators, as required. Staff may provide Employee-In-Charge (EIC) services, in addition to other logistics support for PATH.

Other support that McKissack+Delcan can provide includes possible activities noted in sections of the RFP and the attached Draft Comprehensive Logistics Plan. These are as follows:

1. McKissack+Delcan can facilitate and participate in Value Engineering and Constructability Reviews as required. The focus of this effort would be on the feasibility of work requiring limited track access, staging facilities, equipment and PATH facility forces.

2. Our team can provide Cost Control expertise if needed by PATH. Our effort could be focused on controlling PATHs resource costs that will undoubtedly be impacted by project change orders, scope modifications, schedule slippages and other unforeseen events that will occur throughout the life of the Capital Program.

In addition to the above, McKissack+Delcan propose logistics support activities that will help enable effective and efficient coordination, tracking and reporting, as well as enabling PATH to achieve greater certainty in areas of the Capital Program and its own construction projects. Some of this effort is noted in the above tasks where appropriate, and is described as follows:

1. McKissack+Delcan recommends that a formal Systems Integration Process be implemented on the Program. Proper planning and execution of the integration of the construction and systems installations work within the existing system will likely play a significant role in the overall success of the Capital Program. The Systems Integration Process will provide the means to manage interfaces between the various contracts and between PATH legacy systems to ensure that the interfaces are being designed in the proper manner and the results are understood at the appropriate timeframe. As examples, fiber cable must be installed in time for communications equipment to be operational, and the New Rail Car Contractor must know the design details of the new car-borne

equipment being provided by the Signal Replacement Program Contractor in order to install and test the new car-borne equipment. McKissack+Delcan can provide Systems Integration expertise if so desired by PATH. Should PATH require assistance in this area, it is recommended that a part time Systems Integrator position be added to the Consultant Team. This person would provide review, analysis and advice to the team and PATH, so that the projects and our team can make any necessary accommodations in their schedules to more accurately reflect the required timeframes and sequencing of the work, if necessary. A resume of our Systems Integrator specialist is included in Section E of this proposal. In addition, our Field Coordinator and Plan Coordinator staff will focus on this area during the on-going monitoring and coordination, since it is undoubted a high risk area of the Capital Program and existing PATH operations. Our Field Coordinator has significant experience in this area.

2. As described in the above tasks, McKissack+Delcan propose to tailor and implement a secure web-accessible database application to provide the team, PATH and certain Capital Program management participants with an efficient means of: tracking progress; handling track access and resource requests and approvals; and providing information, automated action-required alerts and reports. This effort is described in sub-section F.3.1 of this proposal.

3. Further to the effort described in Task B, item 2 (sub-section F.2.3 of this proposal), concerning the review comments to be provided on the proposed construction schedules, our team will also provide similar review and comment on contractor submitted schedules as part of contractor submitted bid packages or as required upon contract reward.

F.2.6. Task E - Program Deliverables

In conducting the logistics support, coordination, scheduling and cost estimating, there are several deliverables that will be completed and submitted by the team. These include but are not limited to the following:

- Work Plan
- Quality Management Plan
- Track access activity logs
- Progress and status tracking reports
- Presentations, graphics, and other informational materials
- Master schedule and regular updates, and look-ahead schedule reports
- Resource cost estimates
- Miscellaneous and ad-hoc reports from our logistical support efforts
- Schedule review and PATH resources impact analysis reports
- Updated Logistics Plan (if requested)
- Change in status alerts to appropriate staff

It is anticipated that the various reports and presentation documents will be issued initially as draft versions subject to review and comment by PATH and other Capital Program stakeholders as designated by PATH. Comments will be received and appropriately accounted for in the final versions that will be re-submitted to PATH for acceptance.

F.3.Technology and Software

F.3.1. Web-Accessible Database Application for Process Efficiency

Delcan has developed an innovative web-based database application which has been implemented with great success on over $18 billion worth of transportation infrastructure projects throughout North America. The database application assists in implementing project management oversight, quality management oversight and acceptance management assignments. The application tools are highly customizable and can be easily structured to meet the needs of the PATH Capital Program logistics coordination, while accommodating the constraints and requirements set forth by PATH.

McKissack+Delcan proposes to tailor and implement this application for use on the PATH project. This secure web-accessible database application will provide the team, PATH and certain Capital Program management participants (as designated by PATH) a tool that will provide an efficient means of tracking progress, handling track access and resource requests and

approvals, and providing alerts and reports. The application would cover the processes and provide efficiencies as follows:

- Master Schedule inputs
- Master Schedule update stakeholder review comments
- Resource cost estimate review comments
- Track access, facility forces and equipment request forms completion, submission, review and approvals
- Progress monitoring, performance tracking and updates coordination communication
- Track access request data concerning the project, work activity, timing, and other pertinent information, can be compiled from the database for review
- Current LPG status activity logs
- Custom reports and performance measurement analysis including integration with GPS information and mapping tools if required

The attributes of the system will include:

- Unique user-defined read and/or write access rights
- User to-do lists on Login/User Homepage
- User-defined secure links to select files in PATH's LiveLink EDMS, with read and/or write access as determined by PATH
- Automated email alerts for review, comment, response and approval action items that are user-defined
- Hierarchal, risk-based attribute system for partial pre-determining priorities (smart logic)
- VMware ESX 3.5 for application hosting and software development. VMware is an industrial strength platform for providing compartmentalized hosting solutions across multiple hardware nodes and divergent network configurations
- Off-site secure SQL server used to host the application, with daily back-ups
- Microsoft's most current and advanced .NET framework and server technologies
- Tailored to the defined process to be implemented by McKissack+Delcan and existing PATH procedures
- Availability of printing PDF versions of all forms and reports
- Availability of inputting data from Excel spreadsheets
- Ties to document control of the Capital Program projects and PATH
- Continuous improvement/best practices methodology

The benefits of the implementing the database tool will include:

- increased efficiency in repeated processes by stakeholders involved;
- greater effectiveness and efficiency in communications and information sharing
- effective, real-time means of tracking issues and progress;
- a practical way of gathering inputs, responses and approvals in a timely fashion through the use of email alerts and links to user action items;
- tailored reports;
- real-time information retrieval; and
- trend analysis of performance monitoring, to identify and mitigate potential problems.

F.3.2. Schedule Estimating Software

For the PATH assignment, the McKissack+Delcan team will utilize Primavera P6 as our main scheduling software tool in the development of the Master Schedule, individual construction schedules for PATH outside of the Capital Program, and for all updates. Primavera is the industry standard for the management of large, complex engineering and construction projects, and is well accepted in the contracting community. It includes full capabilities for:

- CPM Analysis
- Cash flow Forecasting
- Resource Tracking
- Interface with Standard Web Managers for Information Access

Specific elements of the program include:

Enterprise Project Structure & Codes: A configurable Enterprise Project Structure (EPS) will form the hierarchical structure of PATH projects based on needs. Extensible Project Codes will capture the various attributes of the projects in PATHs Capital Program.

Cross-Project Analysis & Reporting: P6 quickly and easily creates cross-project dependencies so that McKissack+Delcan can determine how one project may impact one another. Built-in analysis shows whether resources are over- or under-allocated across capital projects.

CPM Scheduling: P6 provides Critical Path Method (CPM) Scheduling, which uses the activity durations and relationships between activities and calendars to calculate a schedule for each project. CPM identifies the critical path of activities as well as those activities that could affect the completion date for aparticular project or deadline.

Float Path Analysis: Float Path Analysis will identify all critical paths within a project to help avoid potential delays before they occur and to help visualize an activity's importance to overall project plan.

Cross Project Dependencies: Cross-project dependencies will help to monitor the overall critical path of the program and reduce the risk of multiple parties working together.

Reflection Process: Compares the status updates received from various sources to identify potential issues or delays that will impact the overall program.

Resource Assignments: When project resources needs have been determined, they can easily be assigned to the schedule activities. P6 tracks labor, material, equipment and expense needs for activities and WBS nodes.

Resource Leveling: Resource leveling helps ensure that sufficient resources are available to perform the activities in the project plan.

ERP or Accounting Integration: The P6 architecture allows for integration with ERP or Accounting Systems so that schedule and cost information can be shared.

Baseline Management: Unlimited versions of the schedule resources and cost assignments can be stored to compare how the project is progressing vs. the original plan vs. the last update cycle, vs. 6 months ago, etc.

F.3.3. Cost Estimating Software

McKissack+Delcan utilizes Timberline software to help manage and reduce time-expenditure, curb risks, and maximize profits by automating estimating and bid management processes. The core estimating application is supported by a multitude of thorough databases and is also able to integrate with RSMeans databases and pricing services. The Estimating element also offers CAD integration, common vendor/subcontractor lists, issues budgets to job costs, historical cost databases, conceptual estimates (modeling) and integration to purchasing.

Features of the Timberline software tool include the ability to:

- Create quick, accurate estimates backed by material, cost, and labor details.
- Estimate the staffing, timing, and cost for construction activities performed by PATH facility forces
- Monitor PATH staffing support and staffing levels to determine modifications that may be required to support the timely completion of the Capital Program.
- Use multiple takeoff methods to create detailed customizable estimates.
- Compare new estimates with other similar jobs to spot potential errors before they happen.
- Transfer estimates to Job Cost for budget-to-cost comparison.
- Analyze estimates from a variety of angles, including phase of work.
- Drill down through multiple layers to finer and finer detail using rich database capabilities.
- Perform quick calculations for an instant sanity check by dropping in assumptions using Model Estimating's fill-in-the-blank format.
- Create conceptual estimates and easily incorporate bids from subcontractors and suppliers.

F.4.Technical Approach Summary

In summary, our Technical Approach will be proactive as well as efficient and effective to benefit PATH.

Proactive:

- Planning detailed logistics analysis around the Master Schedule and well prior to the planned work of the projects;
- Increasing the focus of the analysis and monitoring on the activities with greater risk, and considering work category performance as measured from on-going progress monitoring;
- Using the team's extensive experience to initially focus on areas of usual issues such as Systems Integration and Testing/Commissioning;
- Planning for success at the outset of our work, by implementing processes and tools that will maximize the effectiveness of communications and logistics coordination between the LPG and staff of the PATH departments and Capital Program management team;
- Using pre-assigned attributes for work activities, timing, and other information relating to Track Access Requests, to enable standardization in the assignment of priorities; and
- Using planned and systematic approach that follows a Work Plan, so that continuous improvements that benefit the Program can easily identified and implemented.

Efficient and effective by:

- Using a planned and systematic approach that follows a Work Plan designed to ensure that the logistics planning and coordination is effective and efficient;
- Focusing the analysis and monitoring on areas of greater risk and poor performance so that the allocation of limited access and facility force resources is appropriately prioritized; and
- Implementing processes and tools that will maximize the efficiency of communications and logistics coordination between the LPG and staff of the PATH departments and Capital Program management teams;
- Automating the dissemination of information and action-required notifications through email alerts with links to user homepage information updates and to-do lists in the database application;
- Efficiently retrieving information and tracking progress, issues and status in real time through the database application;
- Automating the form completion, submission, review, status tracking and approval processes of Track Access Requests; and
- Using a tailored, remote accessible, secure, web-based database application to efficiently and effectively solicit and obtain cost and schedule review comments and progress update inputs, reference LPG activity logs and track access usage plans, and providing reports with customized analysis.

G. Management Approach

The success of our services is dependent on following a proper management approach. This approach is comprised of several areas that all contribute to our success, and are as described in the sub-sections that follow.

G.1.Key Staff

One of the key success factors in providing quality services is the people that McKissack and Delcan provide to our clients. Our long term success is dependent on the success of our clients, which to a significant extent relies on the performance of our staff that we provide to our client's projects. Our team consists of key professionals that have the expertise and experience to meet and exceed PATH's expectations, and assist in making the Capital Program a success.

Descriptions of the McKissack+Delcan team key staff are provided along with resumes of key staff and additional (as needed) staff, in Section E of this proposal.

G.2.Our Management Structure

G.2.1. Organization

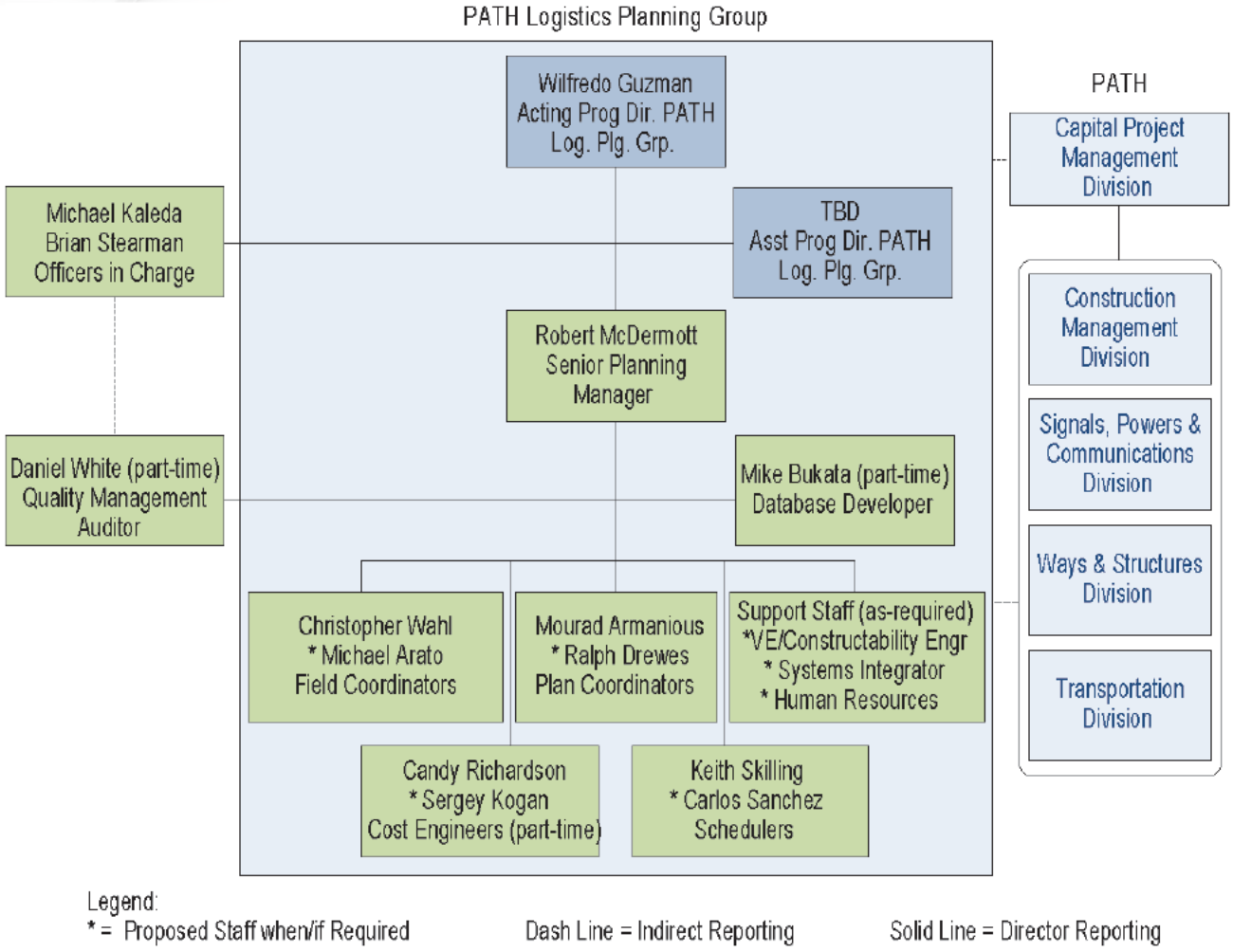
The organization chart on the following page illustrates our proposed team with reporting lines of communication and authority shown. The McKissack+Delcan team will act as an integrated part of the Logistics Planning Group (LPG). We believe that what is depicted is an effective and straightforward approach to managing this assignment. We will adhere to this proposed organization unless modifications are requested by PATH.

The following is a summary of how our organization will function:

- Contractual and Cost Issues: On this assignment, the two officers of the McKissack+Delcan Joint Venture, will be responsible for all contractual issues and decisions affecting the cost of our services. They are the lead Officer-in-Charge, Michael Kaleda, and the secondary Officer-in-Charge, Brian Stearman. The Officers-in-Charge will support the Senior Planning Manager who is responsible for managing our services and fulfilling PATH's requirements. The Officers-in-Charge will periodically assess whether the team is satisfying PATH's expectations…and if not, will assist in rectifying the problem. These performance assessments will come from three sources: reviewing the work; communicating directly with PATH, and conducting internal quality management audits by an auditor that is not a member of the team.

- Technical Direction and Issues: The Senior Planning Manager, Robert McDermott will be the key point of contact with PATH on matters concerning the teams technical direction and issues. He is responsible for the team's entire decision making on issues that are technical in nature and that could have an affect the PATH Capital Program. He will be supported by other key staff in this effort to the extent and manner that he directs them, and as outlined in the team's Work Plan and Quality Management Plan. In fulfilling their functions, our other key staff professionals, such as the Plan Coordinator(s), Field Coordinator(s), Scheduler and Cost Engineer(s) are authorized to communicate with the appropriate PATH departmental and Capital Program management and technical staff to properly conduct their coordination, scheduling, estimating and logistical planning support functions. No immediate recommendations from our staff will be offered to PATH department staff or Capital Program staff. Any recommendations will be communicated through our Senior Planning Manager to the LPG Program Director, and only to other parties with the LPG Program Director's advance approval.

- Internal Quality Audit: We will assign a Quality Management Auditor who is independent from the project team, to confirm our compliance to our own processes and plans. Dan White from Delcan will fulfill this function. He will report directly to our Senior Planning Manager and will provide his annual assessments to him with copies to our Officers-in-Charge, as well as the LPG Program Director.



G.2.2. Availability and Commitment of Our Resources

McKissack+Delcan's objectives for staffing the project are to:

- provide the PATH will the highest quality expertise;
- have the resources available to address whatever issues and PATH needs arise; and
- ensure that PATH gets superior expertise and capabilities.

The McKissack+Delcan Officers-in-Charge have full authority to assign staff to the project as needed to meet the objectives of the PATH project.

G.3.Meeting and Exceeding PATH's Needs

McKissack+Delcan takes pride in our ability to complete assignments on time and within budget, and to deliver the highest quality products. Our project management processes and our professional staff are key reasons why we have won awards on major projects. Our team's management approach and techniques are designed to achieve several objectives:

- A timely and effective response to PATH's direction;
- Effective management of the assignment with respect to scope, schedule and budget;
- Schedule alignment of the team's activities with the Capital Program schedule, such that key information is available to PATH in a manner to proactively effect changes and improvements at the most opportune times;
- The provision of our professional resources when and where they are needed;

- Early identification of project risks and critical issues – with them being managed and tracked to resolution;
- Insightful and high quality deliverables; and
- Effective communications among team members, and with PATH and Capital Program staff, with the primary objective of making sure PATH is completely informed in a timely manner…a "no surprise" philosophy.

Descriptions of some of the key management processes are as follows:

G.3.1. Cost Management and Project Accounting

We are fully familiar with the cost management and accounting administration of task/work order contracts, and have management and cost accounting processes and systems in place for such contracts. Our task order system assures clarity in task accounting, deliverables, schedule and scope for completing the assigned work. Our cost accounting system is fully capable of accumulating project costs within the work breakdown structure (WBS). The sub-consultant of our team will submit invoices and cost reports to our Senior Planning Manager, that are to the same WBS categories and format used throughout the team's cost and accounting management. The reporting of our costs will be in the format required by PATH.

G.3.2. Schedule Management

Project timeliness is an important part of our project management role. Our project schedule will be aligned with the Master Schedule comprising the Capital Program and PATH construction schedules. It is also determined by the project risks and critical logistical planning issues. Detailed analysis of our developed Master Schedule and identified Program risk areas, will enable us to plan our coordination effort, and identify the appropriate timing of the logistics planning and cost estimating efforts to meet the needs of PATH in a proactive manner. Our team will manage its on-going work by monitoring the changes made to the Master Schedule updates. Frequent communications with PATH will enable our team to schedule and plan for any required additional staff to complete new tasks requested by PATH.

G.3.3. Performance Reviews

During the course of our assignment, we propose to have our senior management team periodically facilitate and participate in performance reviews of our services, with PATH's active participation. These reviews are proposed on a quarterly basis, to solicit from PATH, constructive feedback and comments of our team's coordination and logistics planning performance. Feedback will be sought during the quarterly performance review meetings, as well as through the use of completed surveys. It is this proactive and aggressive review process which can serve as a means of enabling our team to undertake continuous improvements to benefit PATH and the Capital Program.

G.4.Communications and Reporting

McKissack+Delcan understand the importance of communications and comprehensive reporting. The success of our coordination work on this Program is critically dependent on frequent and good communications and reporting, not only within our team, but with the various PATH and Capital Program management staff. Our approach to the completion of tasks involves continuous client interaction. This partnership approach ensures that we review the status of project tasks and activities frequently, both internally and with PATH. Through regular meetings, formal reports, and timely working meetings, we will make certain that our team is synchronized with PATH's needs.

- Frequent Project Team Meetings to ensure a full and complete understanding of project status, upcoming activities and resource needs, issues and the feedback provided by PATH. Such communication will ensure our approach is consistent and coordinated.
- Clear and Frequent Communication will be maintained at all times. Our communication and reporting will use technology as appropriate to maximize efficiency and effectiveness including telephone, video conferencing, computer-teleconferencing (WebEx), fax machine, electronic mail, voice mail, and courier services. The secure web-based database application proposed and described below, will be capitalized upon in the communications of issues, requests, comments, approvals and team member 'to do' process steps.
- A Web-Based Secure Database Application is proposed to be implemented, using a tailored version of Delcan's oversight database application that has been used successfully on numerous transit projects. This application

is for the use of our team, PATH LPG staff, specified PATH department staff and Capital Program management staff. It will include a number of communication, coordination and process automation functions that cover areas as described in sub-section F.3.1 of this proposal. The implementation of this application will be tailored to the processes used for the Program and the needs of PATH. This tool will greatly improve the efficiency and effectiveness of communications and reporting for all parties involved in the logistics planning and coordination of the Capital Program.

G.5.Quality Management of Our Services

We take pride in the quality of our products and work. We understand that our work must be accurate and of high quality to support PATH's goal of taking the correct proactive steps to ensure that its Capital Program is not impacted. Our team understands quality management better than most organizations in the industry. Delcan has been providing quality management and quality management oversight on numerous transit projects throughout North America in the last 15 years. Through its proven and innovative approach Delcan's projects have received numerous awards and accolades including the following awards for Denver's T-REX SE Corridor LRT and Interstate improvement project:

- 2004 Colorado Performance Excellence Award (Malcolm Baldridge quality criteria)
- 2006 IRF Global Achievement Award for Quality Management (global competition)
- 2006 APTA Outstanding Public Transportation System Award (innovative practices)
- 2007 NPHQ Award for Quality Management

Regarding Delcan's current Quality Management role on Denver's $7.6 billion FasTracks program, FTA's PMOC prepared a report in October 2007 that stated: "RTD's QMO Program meets or exceeds the U. S. Department of Transportation's FTA-IT-90-5001-02.1, Quality Assurance and Quality Control Guidelines. Overall, RTD has implemented an outstanding QA/QC program."

The important implication for PATH is to know the extensive background and experience in Quality Management that the McKissack+Delcan team brings to the Capital Program assignment.

To provide quality control over the documents that we produce, all deliverables will follow the processes set forth in our Quality Management Plan that will be developed specific to and at the outset of our assignment. A reviewer independent of the production of the document will perform checks and compare the plan to best practices prior to it being submitted to PATH for approval.

The Quality Management Plan will follow the ISO 9001 format and cover thirteen (13) elements as indicated in Figure G-1.

To ensure that we follow our Quality Management Plan, we will engage a Quality Management Auditor, independent of our team, to conduct annual audits of our conformance to the plan. The Quality Management Auditor will report directly to our Senior Planning Manager and will provide his annual assessments to him with copies to our two Officers-in-Charge, as well as the LPG Program Director. Our team will respond to any identified non-conformances and implement corrective actions in a timely manner, which will be confirmed by the Quality Management Auditor and reported to the same individuals receiving copies of the audit.

Figure G 1: Quality Management Plan Elements

In summary, McKissack+Delcan is committed to providing the best services by:

- Using Delcan's industry recognized expertise in Quality Management and its best practices to implement and follow an ISO 9001 based quality management system;
- Measuring our adherence to our Quality Management Plan and Work Plan, through annual audits by a Quality Management Auditor independent of the assignment;
- Having a depth of resources consisting of transit experts to draw from as and when required by PATH;
- Implementing communication and coordination processes and tools that enable our team to be as effective and efficient as possible;
- Following a systematic approach governed by a Work Plan that enables identification of opportunities for improvement to act upon;
- Actively pursuing constructive feedback through a series of quarterly reviews and surveys of our performance to be completed by PATH, in an effort to improve our services; and
- By tailoring our approach and tools to the needs of PATH and the Capital Program.

H. Subconsultants

McKissack+Delcan is pleased to partner with PACO Group, Inc. (PACO) who will serve as our sub-consultant on this assignment. Our selection was based on several key criteria: PACO's technical expertise in the disciplines required for this type of project, their familiarity with the concerns of local and federal codes and regulations, and their ability to work cohesively with our proposed project team. PACO was also selected because of their work on several successful assignments with JV partner McKissack, including the recent relocation of the VD Yard for the Long Island Rail Road in Brooklyn, which was completed in December, 2009.

PACO brings to our team their extensive project controls experience and expertise on hundreds of rail projects throughout the United States, as well as their 20 plus years of experience on assignments for the Port Authority. PACO is a certified Minority Business Enterprise (MBE), and it is our intention to work with them to exceed the Port Authority's 12% MBE participation Goal. PACO has a 2.45 multiplier which was recently audited by the Port Authority.

PACO, founded in 1989, is a full-service Program Management and Construction Management consulting firm. Headquartered in New York City, PACO is Certified throughout the US as a Minority-Owned Business Enterprise, functioning as an extension of a client's in-house staff, assisting during project initiation, design development, bid/award and construction phases of a project or program. PACO's qualifications and experience includes expertise in the areas of capital program development and construction management for major transportation infrastructure and railroad facilities, urban designs and redevelopment projects. This includes airport facilities, highway and bridges, port facilities, automated transit and rail systems, bus terminals, bridges, tunnels, schools, and waterfront development. More recently, PACO provided services to both the Port Authority of New York & New Jersey and New Jersey Transit for the following projects:

- Port Authority of New York and New Jersey – JFK / LaGuardia Airports;
- Port Authority of New York and New Jersey – WTC Transportation Hub; and
- New Jersey Transit – THE Tunnel Project

For this assignment, we have selected one Cost Estimator (secondary) and one Scheduler (secondary) from PACO to augment our proposed project team. The Scheduler can act as the Cost Controls Engineer for our team, if required by PATH, as described in Sections E, F (subsection F.2.5) and G (organization chart) of this proposal.

Mr. Sergey Kogan, our proposed secondary Cost Estimator, has more than 20 years of experience 30 years of experience in the design and construction industry, several of which have been spent in Senior Management roles. He is experienced in all facets of Estimating and Cost/Value Engineering and has lent his expertise to a variety of project types, particularly in the areas of transportation projects. He has a working knowledge of various Department of Transportation, Federal, State and Local regulations, regulatory compliance requirements and regulatory permits. His experience includes roles as a Civil Engineer and Cost Estimator with specific work in traffic engineering, traffic signal system design, and transportation planning. Responsibilities have included preparation of PS&E packages for traffic signals; signal interconnect; maintenance and protection of traffic; general plans; pavement delineation and signing plans; traffic signal warrant analyses; traffic impact analyses, feasibility, and operation studies; highway, interchange and intersection geometric design; alternative studies for roadway alignment; review of contract documents and consultant reports; parking design; parking and circulation studies; utility coordination; construction cost estimate generation; and preparation of contract change orders.

Mr. Carlos Sanchez, our proposed secondary Scheduler (if required) and Cost Controls Engineer (if required), is a licensed Professional Engineer with over 20 years of experience performing project controls on a broad range of transportation related planning and construction projects. His experience includes: rail, aviation, heavy civil, universities, hospitals, and public housing. Mr. Sanchez has expertise performing all facets of Project Controls, including scheduling, contract administration, contract change management, and claims management. His experience encompasses all project phases: engineering design, procurement, and construction. His additional skills include performing strategic long-range manpower planning, budget forecasting, and expert-level proficiency in Primavera P3 and P6. Mr. Sanchez has worked on complex FTA funded

projects developing resource loaded CPM schedules comprising several thousand activities with multiple project/contract interfaces with agency-wide projects with values in excess of $2 billion. He has hands-on experience preparing WBS coding structure, cost/schedule variance analysis, earned values, project trend, and contract change notice. Computer skills include Excel, Word, Configuration Management Contract Control System (CCS), and other industry standard Project Management Software.

Resumes for both Carlos Sanchez and Sergey Kogan are included in Section E of this proposal.

I. M/WBE Participation

McKissack+Delcan is committed to furthering opportunities for women and minorities in the workplace, and reaffirms this commitment through an Equal Opportunity Affirmative Action Policy and Procedure (available upon request). As an equal opportunity employer, our Joint Venture has been successful in recruiting, hiring, and retaining an ethnically and socially diverse professional staff. Our efforts to date have produced a multidisciplinary workforce that is more than 70% comprised of women and minorities - a record of diversity that extends to the highest levels of the firm's management. McKissack+Delcan also complies with Executive Order 11246, the Vietnam Era Veterans Readjustment Assistance Act of 1974 and the Vocational Rehabilitation Act of 1973.

It is also our policy to support the Port Authority's program of nondiscrimination in the award and administration of assisted contracts; to create a level playing field on which firms can compete fairly for contracts; to ensure that the scope of work is tailored in accordance with applicable laws; to ensure that only firms that fully meet eligibility standards are permitted to participate as M/WBE's; to help remove barriers to the participation of firms in assisted contracts; and to assist the development of firms that can compete successfully in the market place outside the M/WBE Program.

While we realize that M/WBE employment must be uniform throughout the length of this contract, for an assignment of this magnitude and time frame, we would be remiss to simply propose an M/WBE program designed to achieve pre-established subcontracting participation goals. Instead, we have designed a comprehensive M/WBE Subcontracting Program that will not only ensure significant opportunities for M/WBE's, but will also mentor them so that they can grow their business.

Finally, our team has the hard statistics to prove that our efforts in M/WBE participation and community outreach go beyond those of our competitors. We believe strongly in helping our clients to use the dollars they invest in their projects to give back to the communities in which they are located. We do this by using local talent, but also by giving back to the community in other ways, like providing career counseling, mentoring, and training. When we are finished with a project or program, we know that we have truly made a difference in the community.

J. Affiliates

McKissack & McKissack:

N/A

Delcan Corporation:

NATENG Technology Group Inc. (owns 100% of Delcan Corporation)

Delcan Limited Inc. (Delcan Corporation owns 100% of Delcan Limited Inc.)

InterVISTAS (Delcan Corporation owns 50% of InterVISTAS)

K. Contract Exceptions

McKissack+Delcan agrees with The Port Authority of New York and New Jersey's Standard Agreement and its terms and conditions as outlined in RFP No. 19980.

L. Conflict of Interest

McKissack+Delcan hereby certifies that neither the firm nor its employees have any material, personal, financial, or fiduciary interest with The Port Authority of New York & New Jersey (The Authority) or to any offer under consideration by this Request for Proposal (RFP). McKissack+Delcan further certifies that it has no relationship with or bias toward any offer or that would prevent The Authority from evaluating any other proposal solely on its merits. Furthermore, McKissack+Delcan agrees to notify the procurement official in charge of RFP No. 19980, if at any time during the evaluation process its financial or fiduciary relationship to The Authority changes.

Though our team does not foresee a conflict of interest we would however like to disclose that Delcan is currently involved, as a subconsultant, providing expert professional program management services for Phase II of the PATH Automatic Train Control Project.

AECOM

Submitted to
THE PORT AUTHORITY OF NY & NJ

Submitted by
AECOM USA, Inc.

January 14, 2010

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #10080

COPY

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation thereof (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Authority website at *http://www.panynj.gov/AboutthePortAuthority/ContactInformation/foi_policy.html,* not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

AECOM USA, Inc.
(Company)

Robert Totillo
(Signature)

Vice President
(Title)

January 13, 2010
(Date)

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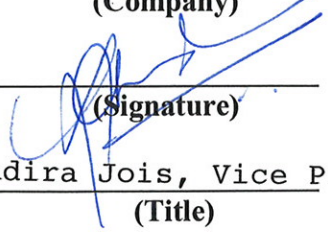
JCMS, Inc.
(Company)



(Signature)

Indira Jois, Vice President
(Title)

12/29/2009
(Date)

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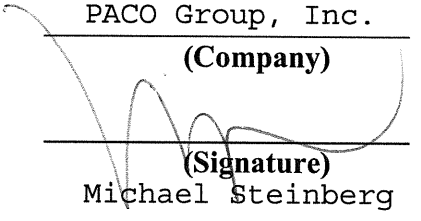
PACO Group, Inc.
(Company)



(Signature)

Michael Steinberg

Vice-President, Marketing
(Title)

January 13, 2010
(Date)

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Radin Consulting, Inc.
(Company)

Chitra Radin
(Signature)

President
(Title)

January 7, 2010
(Date)

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ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   AECOM USA, Inc.

2. Business Address (to receive mail for this RFP):

   605 Third Avenue, New York, NY 10158

3. Business Telephone Number: (212) 973-2900

4. Business Fax Number: (212) 682-6172

5. Firm website: www.aecom.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 5/1/1927

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   see attached

9. Officer or Principal of Firm and Title:

   Robert Totillo, Vice President

10. Name, telephone number, and email address of contact for questions:
    Robert Totillo, T: (212) 973-2903 , email: robert.totillo@aecom.com or

    Gary Matz, PE, T: (212) 510-2627, email: gary.matz@aecom.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

List of Affiliates for AECOM USA, Inc.

AECOM Services, Inc.
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

AECOM, Inc.
For Profit
FEIN: [redacted]
Address: Two Technology Park Drive, Westford, MA 01886

EDAW
For Profit
FEIN: [redacted]
Address: 150 Chestnut Street, San Francisco, CA 94111

Economic Research Associates
(California)
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Earth Tech/Archer Western, LLC.
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Earth Tech WE Holding, Inc.
(Delaware)
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Cass Water Engineer, Inc.
(Delaware)
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   JCMS, Inc.

2. Business Address (to receive mail for this RFP):

   1741 Whitehorse-Mercerville Rd

   Mercerville, NJ 08619

3. Business Telephone Number: 609-631-0700

4. Business Fax Number: 609-631-0808

5. Firm website: jcms.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 06 /01 /1985

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   N/A

9. Officer or Principal of Firm and Title:

   Umesh K. Jois, President

10. Name, telephone number, and email address of contact for questions:

    Jayanta Dutta, 609-631-0700,jdutta@jcms.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☒ Yes ☐ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Kenneth J. Ringler, Jr.
Executive Director

Certified

by

Small Business Programs

JCMS, Inc.

Certificate PA-19889

This certificate acknowledges that the above named firm is certified as a **Minority Business Enterprise**. This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
General Manager
Certified: September 8, 2006

Rosemary J. Varela
Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: September 7, 2011

Form: 6/10/93

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):
   PACO Group, Inc.

2. Business Address (to receive mail for this RFP):
   110 William Street, Suite 3010
   New York, NY 10038

3. Business Telephone Number: (212) 685-0578

4. Business Fax Number: (212) 685-1379

5. Firm website: www.pacogroup.com

6. Federal Employer Identification Number (EIN) [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 06 / 01 / 1989

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

9. Officer or Principal of Firm and Title:
   Frank Otero, President

10. Name, telephone number, and email address of contact for questions:
    Michael Steinberg, VP of Marketing (212) 685-0578 Ext. 309 msteinberg@pacogroup.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☒ Yes ☐ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Anthony E. Shorris
Executive Director

Certified

by

Office of Business & Job Opportunity

PACO Group, Inc.

Certificate PA-557

This certificate acknowledges that the above named firm is certified as a **Minority Business Enterprise**. This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: December 31, 2007

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: December 31, 2012

Form: 6/10/93

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   Radin Consulting, Inc.

2. Business Address (to receive mail for this RFP):

   193 West Hobart Gap Rd., Livingston NJ 07039

3. Business Telephone Number: 973-732-1249

4. Business Fax Number: 973-878-2762

5. Firm website: _____

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 11 / 18 / 1998

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

9. Officer or Principal of Firm and Title:

   Chitra Radin - President

10. Name, telephone number, and email address of contact for questions:

    Chitra Radin 973-865-1451 cradin@radinconsulting.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☑ Yes ☐ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Christopher O. Ward
Executive Director

Certified

by

Office of Business & Job Opportunity

Radin Consulting, Incorporated

Certificate PA-22280

This certificate acknowledges that the above named firm is certified as a **Woman-owned Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: July 2, 2009

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: July 2, 2014

Form: 6/10/93 RAL

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

AECOM
605 Third Avenue
New York, NY 10158
www.aecom.com

(212) 973-2900 tel
(212) 682-6172 fax

B1

January 14, 2010

Port Authority of New York and New Jersey
One Madison Avenue
7th Floor
New York, NY 10010

ATTN: RFP Custodian

RE: RFP # 19980 - Performance of Expert Professional Planning, Project Management, and Related Services as Requested on a Call-In Basis during 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH)

To Whom It May Concern:

AECOM is pleased to submit to the Port Authority of New York and New Jersey our proposal to perform Expert Professional Planning, Project Management, and Related Services as Requested on a Call-In Basis during 2010-2014 for the Port Authority Trans-Hudson Corporation. This effort, which will support PATH's $2.1-billion Capital Program over the next several years is essential to PATH's ability to continue serving its customers safely, quickly, and efficiently.

As you are well aware, AECOM is the current incumbent on this assignment, for which we have performed successfully since 2008. We recognize the paramount importance of PATH's ongoing Capital Program, which includes critical items such as the purchase and introduction of a brand new rail car fleet, the installation of a state-of-the-art signal system, miscellaneous infrastructure and systems upgrades, and supporting the building of the new World Trade Center Transportation Hub. Over the past year and half, we have worked side by side with you as we have carefully examined the entire PATH system, reviewed all of the various programs and projects that are being implemented, and held discussions with much of your senior staff, and operating and maintenance staff. We have carefully examined schedules, staffing, budgets, equipment allocation, and most importantly, the track capacity available to support the proposed construction activities. We have also gone to the field with you to view your system and facilities first hand, and as a result, we have developed an intimate knowledge of the PATH system and fully understand the constraints and challenges that lay ahead. We know what is required to successfully deliver the various component projects of the ambitious Capital Program. As such, AECOM is best suited to continue serving you for this new assignment.

We are proposing Gary Matz, PE as Project Manager. Mr. Matz, presently serving as the Project Manager on the current assignment, has considerable experience effectively managing multidisciplinary assignments as well as task order type assignments.

Perhaps more importantly, we are also proposing Michael Marino, as Senior Planning Manager for the Logistics Planning Group. Mr. Marino has been directing all of the group's activities for the past year and a half, and has been reporting on-site, directly to you for the past seven months, maintaining continuity of processes and ensuring the continued success of the program planning effort currently underway.

As Project Executive, I will provide overall leadership and corporate commitment and will ensure that the team has the right resources available to respond to the needs of PANY&NJ/PATH.

In addition, we also acknowledge the receipt of Addendum 1, dated December 22, 2009 and Addendum 2, dated January 11, 2010.

If you have any questions or require further information on this submittal, please do not hesitate to contact me at (212) 973-2903. We look forward to continuing to work with PATH and the Port Authority of New York and New Jersey in supporting your ambitious efforts. Thank you for your consideration.

Sincerely yours,

Robert Totillo
Vice President
AECOM

RT/sm

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

C. Cost

Section C: Cost

AECOM USA, Inc. - Multiplier Breakdowns

HOME Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.63 2.63
Profit (@ 0%)	0.00
Total HOME Office Multiplier	2.63

FIELD Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.098 2.098
Profit (@ 10%)	0.21
Total FIELD Office Multiplier	2.31

FIELD Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.22 2.22
Profit (@ 1.8%)	0.04
Total FIELD Office Multiplier	2.26

PACO Group, Inc. - Multiplier Breakdowns

HOME Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.51 2.51
Profit (@ 12%)	0.3012
Total HOME Office Multiplier	2.81

JCMS, Inc. - Multiplier Breakdowns

HOME Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.162 2.162
Profit (@ 10%)	0.2162
Total HOME Office Multiplier	2.38

FIELD Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.40 2.40
Profit (@ 12%)	0.29
Total FIELD Office Multiplier	2.69

Radin Consulting, Inc. - Multiplier Breakdowns

HOME Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.62
	2.62
Profit (@ 10%)	0.26
Total HOME Office Multiplier	2.88

FIELD Office Multiplier	
Direct Labor	1.00
Home Office Overhead	1.50
	2.50
Profit (@ 10%)	0.25
Total FIELD Office Multiplier	2.75

Notes:
AECOM, JCMS, PACO Group, Inc., and RCI's Home Office overhead multiplier includes vacation, holiday, sick pay, workers compensation, office rent and insurance.

Hourly Rates - AECOM USA, Inc.

Name	Title	2010*	2011	2012	2013	2014
Gary Matz, PE	Project Manager	$85.82	$87.97	$90.17	$92.42	$94.73
Michael Marino	Senior Planning Manager	$79.96	$81.95	$84.00	$86.10	$88.26
Frank Cienski	Field Coordinator	$79.96	$81.95	$84.00	$86.10	$88.26
Aharon McIver	Field Coordinator	$39.45	$40.44	$41.45	$42.49	$43.55
Steve Mathew	Plan Coordinator	$32.36	$33.17	$34.00	$34.85	$35.72
Nicole Hunter	Plan Coordinator	$56.17	$57.57	$59.01	$60.49	$62.00
Sukhdev (Dave) Sharma	Cost Estimating	$68.47	$70.19	$71.94	$73.74	$75.58
John Magnotta	Presentation/Graphics	$37.34	$38.27	$39.23	$40.21	$41.22
Phoebe Fu	Database/LiveLink/GIS	$41.40	$42.43	$43.50	$44.58	$45.70
Ty Edwards	Database/LiveLink/GIS	$48.56	$49.78	$51.02	$52.30	$53.61
Joshua Gillespie, LEED AP	Environmental Review	$56.93	$58.35	$59.81	$61.31	$62.84
Mark Gander, AICP	ROW/Property Acquisition/TOD	$56.93	$58.35	$59.81	$61.31	$62.84
Paul Thomas Pyle	Operations	$64.58	$66.19	$67.84	$69.54	$71.28
Robert Peskin, PhD	Asset Management	$98.51	$100.98	$103.50	$106.09	$108.74
Joseph Pizzurro, PE	Infrastructure - Bridges	$73.09	$74.92	$76.79	$78.71	$80.68
Frederick Scarcello, PE	Infrastructure - Bridges	$68.11	$69.81	$71.56	$73.35	$75.18
Harris Sokoloff	Infrastructure - Civil/Drainage	$29.51	$30.25	$31.00	$31.78	$32.57
J. Otto Yu	Infrastructure - Civil/Drainage	$76.07	$77.97	$79.92	$81.91	$83.96
Anwar Syed	Infrastructure - Electrification	$61.77	$63.31	$64.89	$66.52	$68.18
Paul Roy, PE	Infrastructure - Tunnels	$90.90	$93.17	$95.50	$97.89	$100.33
Michael Kirschman, AIA	Architecture	$72.45	$74.26	$76.11	$78.02	$79.97
John Seaboldt, PE	Stations - Facilities	$98.68	$101.14	$103.67	$106.26	$108.92
Robert Pinghero, PE	Stations - Structures	$93.72	$96.06	$98.46	$100.92	$103.44

Name	Title	2010*	2011	2012	2013	2014
Michael Trabold, PE	Stations - Structures	$61.27	$62.81	$64.38	$65.99	$67.64
James Zebarth	Procurement - Contracts/Claims	$87.48	$89.67	$91.91	$94.21	$96.57
John McVetty	Procurement - Contracts/Claims	$72.08	$73.88	$75.73	$77.62	$79.56
Michael Bean, AIA, CSI, CCS	Procurement - Specifications	$56.29	$57.70	$59.14	$60.62	$62.14
Robert Dall	Track - Alignments	$50.52	$51.79	$53.08	$54.41	$55.77
William Norquist, PE	Track - Trackwork	$69.99	$71.74	$73.53	$75.37	$77.25
Kevin Pierce, PE	Security	$102.13	$104.68	$107.30	$109.98	$112.73
Timothy Phelps, PE	Signals/Communications	$89.23	$91.46	$93.74	$96.09	$98.49
Richard Barrett	Signals/Communications	$84.08	$86.18	$88.34	$90.55	$92.81

* 2010 rates are not available at the time of this submittal and are approximated based the the corporatewide compensation adjustment average of 2.5% above the current 2009 rates.

note: Estimated rate of escalation for AECOM is 2.5%.

Billing Rates - AECOM USA, Inc.

Name	Title	2010*	2011	2012	2013	2014
Robert Totillo	Officer-in-Charge	$230.00	$235.75	$241.64	$247.68	$253.88
Marc Cunningham, RA, Esq.	Procurement - Contracts/Claims	$190.00	$194.75	$199.62	$204.61	$209.72

* 2010 rates are not available at the time of this submittal and are approximated based the the corporatewide compensation adjustment average of 2.5% above the current 2009 rates.

note: Estimated rate of escalation for AECOM is 2.5%.

Hourly Rates - JCMS, Inc.

Name	Title	2010	2011	2012	2013	2014
Muralidharan Puthiarambath	Scheduling	$56.70	$59.54	$62.51	$65.64	$68.92
Ravindran Arumugam	Cost Estimating	$50.98	$53.53	$56.20	$59.01	$61.96

note: Estimated rate of escalation for JCMS, Inc. is 5%.

Hourly Rates - PACO Group, Inc.

Name	Title	2010	2011	2012	2013	2014
Jorge Reinosa	Configuration Management	$41.59	$43.25	$44.98	$46.78	$48.65

note: Estimated rate of escalation for PACO Group, Inc. is 4%.

Hourly Rates - Radin Consulting, Inc. (RCI)

Name	Title	2010	2011	2012	2013	2014
Trupti Kalbag	Cost Controls/Planning Studies	$34.38	$36.27	$38.26	$40.36	$42.58

note: Estimated rate of escalation for Radin Consulting, Inc. is 5.5%.

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

Section D: Firm Qualifications and Experience

A leading global provider of professional technical and management support services, AECOM offers planning, engineering design, construction and program management services to a broad range of markets. We are a recognized industry leader, ranked #1 in Transportation, #1 in "Pure Design" and #1 in Transit/Rail in the 2009 *Engineering-News Record* rankings. With a wealth of technical resources and a multidisciplinary staff of 45,000—more than 20,000 who are working in the United States—AECOM has the manpower and talent to offer superior service.

We offer clients start-to-finish solutions for projects large and small, urban and rural. Partnering with clients in a collaborative, integrated manner, AECOM helps create and maintain many of the world's leading transit systems and facilities. In the Transit/Rail sector, we offer the following services: planning, project management, environmental analysis, financial planning, stations and facilities design/architecture, track design, signal and communication design, facility and asset management tunneling and civil structures.

AECOM and its legacy companies have provided decades of planning and design services for rail transportation facilities. Our long history of service in the transit industry includes projects performed for all major transit agencies in the Northeast U.S. We have provided On-Call Services for MTA Bridges & Tunnels, New York City Transit, the Long Island Rail Road and NJ Transit, among others. The company has extensive experience handling large-scale transit capital projects including providing construction management services for the Port Authority's $3-billion World Trade Center PATH Hub project, MTA CC/NYCT's $4.4-billion Second Avenue Project and the NYSDOT's $16-billion I-287 Corridor/Tappan Zee Bridge project. Take a look at AECOM's proud portfolio of transit initiatives in the project descriptions that follow; client references are also included on these project sheets.

Performance of Expert Professional Planning, Oversight, and Related Services as Required on an "As-Needed" Services Basis During 2008, 2009, and 2010

New York and New Jersey

Client

Port Authority Trans-Hudson
Journal Square Transportation Center
1 PATH Plaza - 8th Floor
Jersey City, NJ 07306

Wilfredo Guzman, PE
Acting Program Director, PATH Logistics Planning Group
(201) 216-6804

Completion Date

ongoing

Project Description:

AECOM was retained by the Port Authority of New York and New Jersey to provide as-needed program management and oversight services. The effort thus far has focused on assisting PATH with logistics planning for its $3.3-billion Capital Program, the largest in its history. AECOM has completed the first task order and is currently engaged in a second task order.

Task Order 1 PATH Capital Program Logistics Planning:

PATH's $3.3-billion Capital Program, the largest in its history, covers several large and significant efforts, which will collectively completely modernize the system. The Capital Program is critically important to maintaining the system's state of good repair as well as ensuring its ability to accommodate anticipated future growth. Highlights of the program include a purchase of 340 new rail cars, essentially replacing the existing fleet; and an advanced train control system that will replace an aging fixed block wayside-based signal system with a modern communications-based Train Control System that will increase reliability and capacity, allowing for reduced headways and increased train operations. Key infrastructure projects are also being implemented, such as rehabilitating the duct banks in the running tunnels, communications systems upgrades, and the building of new traction power substations as well as rehabilitating existing substations. Additional work includes miscellaneous station improvements, implementation of a system-wide security program, and supporting the construction of the new Permanent PATH Terminal at the World Trade Center Transportation Hub. Much of the work for these projects is taking place concurrently and because the PATH system is configured primarily as a two-track system, providing 24-hour-a-day service to its customers, it is imperative that proper planning and coordination take place to ensure that the projects are carried out in a safe and efficient manner with minimal impact to passengers and daily operations. AECOM's efforts to support this program initially began with a thorough analysis of the various components of the Capital Program, including schedule, staffing, and budgets. This was carried out in conjunction with interviews with key PATH personnel to determine the specific status and needs of each of the projects. Additional analyses were conducted with respect to identifying essential internal PATH efforts required to support the Capital Program, including Facility Force requirements, equipment requirements (Work Trains), and staging facilities requirements (existing yards). Most importantly, track capacity was analyzed with respect to the availability of time slots during which work can be scheduled. Collectively, this effort culminated in a Comprehensive Logistics Plan, which identified several key recommendations to facilitate the Capital Program work, including leveling the schedules of the various projects, increased staffing, expanding existing yard capacity, increasing the number of work trains, and expanding track capacity by increasing the number of overnight and weekend time slots for work, in conjunction with better coordination to ensure more efficient use

Performance of Expert Professional Planning, Oversight, and Related Services as Required on an "As-Needed" Services Basis During 2008, 2009, and 2010 continued

of the time available. Most importantly, the creation of a dedicated Capital Program Logistics Group was recommended to coordinate the various elements of the Capital Program, while also liaising with the Construction Management Division and other PATH/PANYNJ departments.

Task Order 2 PATH Logistics Planning Support Services: The efforts of Task Order 1 led directly to the development of Task Order 2, the focus of which has been developing and implementing new management processes and procedures focused on long-range planning and master scheduling of all PATH facility forces and meeting equipment needs as well as track rights to support the Capital Program through year 2016, and planning ongoing system repair and maintenance work and various other construction activities. The Logistics Planning Group coordinates with PATH's Transportation, Way and Structures, and Power, Signal and Communications Divisions, as well as project managers from the Port Authority's Construction Management Division and the World Trade Center project, to prepare master monthly and weekly track usage plans, identify and mitigate potential conflicts, and monitor the day-to-day implementation of scheduled field activities. Additional responsibilities include: managing oversight of the Harrison Yard soil removal; planning for new rail storage facilities at Harrison and D yard; construction phasing oversight for the signals program; coordinating track usage and facility force support for the tunnel hardening program; and construction phasing support planning for the WTC projects that require PATH support. Furthermore, AECOM furnishes daily status reports each morning to the PATH Project Manager and to the PATH Assistant Director of Capital Programs, as well as monthly reports to the Executive Director of PATH and to the PANYNJ Executive Director.

PANYNJ World Trade Center Transportation Hub (PATH)

New York, NY

Client
Port Authority of New York & New Jersey (PANY&NJ)
115 Broadway, 7th Floor
New York, NY 10016
Mark Pagliettini
(212) 435-5531

Project Value
$3 billion

Completion Date
2014

The Port Authority of New York & New Jersey selected the AECOM-led Downtown Design Partnership, in association with renowned architect Santiago Calatrava, to design the new $3-billion permanent Port Authority Trans-Hudson (PATH) terminal at the World Trade Center (WTC) site in Lower Manhattan. The team is responsible for final engineering of site preparation, site stabilization, and PATH facilities, including tracks, platforms and mezzanine, as well as preliminary through final design for the terminal building, pedestrian connections, security, sustainable design, vertical transportation and conveyances, and public wayfinding systems. All design is being performed with the best state-of-the-art practices for sustainable design.

The 650,000-square-foot terminal will include:

- the signature architectural terminal building within the new World Trade Center site
- a permanent PATH facility that will serve more than 80,000 commuters daily
- an expansion of the previous PATH train service level
- pedestrian connections to ferries and 14 subway lines across Lower Manhattan that in 2020 are expected to accommodate 250,000 commuters and visitors daily

PANYNJ World Trade Center Transportation Hub (PATH) continued

- direct pedestrian connections to the World Financial Center, the WTC Memorial, and the MTA's Fulton Street Transit Center
- state-of-the-art safety, security and environmental enhancements

The terminal building is distinguished by a striking design featuring two overhanging wing-like structures, an abundance of large, open spaces, and the use of translucent paving material, which will allow sunlight into the terminal from its top all the way down to train platforms 60 feet below ground level. The terminal will be positioned above a network of passageways linking various transportation modes, from subway lines to ferry boats.

The multi-level building, with a footprint of 28,000 square feet, will provide easily visible connections to all nearby mass transit services and streets, enabling passengers to connect quickly and easily to subway, bus and PATH services, similar to transit functions provided at Grand Central Terminal in midtown Manhattan. The PATH terminal will incorporate direct entrances to the PATH lines, as well as to the NYCT IRT 1/9, BMT N/R, and IND E subway lines, and pedestrian connections to the rest of the WTC site development and adjacent streets. Street-level entrances will be provided on Church, Greenwich, Vesey, and Liberty Streets.

The design will incorporate appropriate levels of protection against various threat scenarios and mitigation measures may include blast-protective construction, CCTV systems, physical intrusion protection, and chemical, biological, and radiological security. Further, principles of sustainable design, including energy efficient systems, indoor environmental quality, life cycle costs and impacts, and material resource and conservation, will be incorporated throughout the facility and considered from construction stage services through building commissioning and use.

PANYNJ World Trade Center Vehicular Security Center (VSC) and Tour Bus Parking Facility

New York, NY

Client

Port Authority of New York & New Jersey (PANY&NJ)
225 Park Avenue South
18th Floor
New York, NY 10003
Vincent Stellato
(212) 435-5650

Project Value

$500 million

Completion Date

2010

AECOM is part of a team providing design services for the World Trade Center Vehicular Security Center (VSC) and Tour Bus Parking Facility Project for the PANY&NJ. The project provides for secure vehicular access to the World Trade Center basement areas and tour bus parking for the WTC Memorial, anticipated to be a prime tourist destination. The project will contribute significantly to the economic recovery of Lower Manhattan by meeting vehicular security needs of WTC tenants, screening for vehicle borne threats to the WTC site and providing underground tour bus parking for the WTC Memorial.

The scope of work includes concept design, preliminary engineering, final design and construction support services. The total cost is approximately $500 million. The project will provide vehicular access to the WTC site for scheduled deliveries and expected vehicles for the WTC site as well as tour buses providing service to the WTC Memorial. The VSC site consists of two city blocks bounded by Liberty Street to the North, Greenwich Street to the East, Cedar Street to the South and NYSDOT Route 9A to the West. It also includes portions of the Liberty Street right-of-way between West Street and the eastern

PANYNJ World Trade Center Vehicular Security Center (VSC) and Tour Bus Parking Facility continued

side of Greenwich Street as well as the Washington Street right-of-way between Liberty and Cedar Streets.

The WTC Vehicular Security Center will be built on a fast-track basis, utilizing concurrent design and construction schedules, to expedite progress and achieve a timely completion. As part of this strategy, multiple contracts for construction of the project are being prepared, including an early start construction package for sewer relocation, a slurry wall and excavation contract, a separate procurement for long lead items such as security equipment and a main contract for construction of the building structure and fit out. The project will be complete and operational in 2011.

Yankee Stadium Redevelopment PM Services

New York, NY

Client

New York City Economic Development Corporation
110 William Street, 6th Floor
New York, NY 10038
Dmitri Konon
[redacted]

Completion Date

2010

Project Description: The centerpiece element in a major economic redevelopment plan for the South Bronx is the creation of a New Yankee Stadium, which is being developed just north of the existing facility at Macombs Dam Park and a portion of John Mullaly Park. The new $800-million open-air facility with a capacity for 54,000 spectators will replace the existing outdated stadium. The project also includes the construction of four new parking garages containing approximately 4,735 spaces and the development of new and replacement recreational park facilities within the vicinity of the proposed stadium. The state-of-the-art facility, to incorporate suites, food and beverage service facilities, retail space, corporate business space, function space and facilities for the media, was completed in time for the opening of the 2009 baseball season, with full project development completed by 2010.

The stadium's design combines both traditional elements, such as arched porticos, inspired by the façade of the 1923 stadium, as well as modern, progressive elements, combining steel, concrete, glass and stone in the new structure. The facility will also include a 60,000-square-foot plaza along 161st Street that would facilitate pedestrian movement into the stadium on game days, and would be open for public use on a year-round basis. New parking garages will be constructed, providing over 3,000 additional public parking spaces, and new public athletic and park facilities will be constructed near the new stadium and along the Harlem River waterfront.

There is also a new MTA Metro-North Railroad station and City Pedestrian Bridge providing direct mass transit and pedestrian connections to the new stadium, a waterfront park and esplanade along the Harlem River, and significant streetscape, traffic and infrastructure improvements. The Yankee Stadium area revitalization coincides with the rehabilitation of the Bronx Terminal Market next door, bringing a one-million-square-foot retail center to the South Bronx.

A Tishman-AECOM joint venture handled program management for the Yankee Stadium redevelopment. This complex initiative, which includes multiple projects being built in close proximity to each other, required close coordination with respect to schedule, staging, logistics, maintenance and protection of traffic, material deliveries, utility relocations and other processes. Basically, the program management team provided the services necessary to ensure the safe, effective, efficient and timely completion of all design and con-

Yankee Stadium Redevelopment PM Services continued

struction activities for the overall stadium redevelopment effort.

During the preconstruction phase, for example, the program management team focused on comprehensive planning analysis and the formulation of the Master Plan. They identified the steps required for timely design, preparation of 100 percent construction documents, bid packages, plus the awarding of construction contracts on each project.

Key to the success of the project during the construction phase was the team's implementation of the controls and the Master Plan. When the program was substantially complete, issues pertaining to occupancy, permitting use, safety and documentation turn-over took center stage. The program management team also provided continuous liaison services between the client, all applicable agencies and project site contract representatives. In addition, it was actively involved in the management of public relations and community outreach efforts.

To summarize our responsibilities, program management services addressed the multiple construction coordination, scheduling, traffic and pedestrian planning, coordination mapping of utility upgrades/ relocations, strategic planning and leadership tasks that weere required for the overall implementation of concurrent and adjacent large construction projects in a dense urban environment operating in close proximity to the current Yankee Stadium, which generally attracts over 50,000 people per game. The program manager ensured that the New York City Economic Development Corporation (representing a number of the city agencies including the Mayor's office, NYC Parks and Recreation and NYCDOT) had the necessary resources to ensure the overall project's success, which hinged upon area-wide adherence to various schedules, scopes and safety measures, requiring cooperation and communication among the multiple parties, developers, stakeholders and government agencies.

I-287 Corridor / Tappan Zee Bridge Program Management

Orange, Rockland & Westchester, NY

Client

New York City Economic Development Corporation
110 William Street, 6th Floor
New York, NY 10038
Dmitri Konon
[redacted]

Project Value

$16 billion

Completion Date

2012

AECOM is providing program management for the New York State Thruway Authority and the MTA Metro-North Railroad for major improvements to 30 miles of interstate highway on I-287 including the Tappan Zee Toll Bridge in New York State. The program includes the replacement of the Tappan Zee Bridge, with a full 30-mile Corridor Bus Rapid Transit solution and a Commuter Rail service through Rockland County over the new bridge with connection to the Hudson Line, which provides service to Grand Central Terminal. AECOM has worked closely with other consultants as an extension of the clients' staffs to coordinate and manage the: Alternatives Analysis, Draft and Final Environmental Impact Statement (per NEPA/SEQRA), engineering support activities, and communications with project stakeholders and the public.

The primary study area for the analysis of transportation issues is the 30-mile I-287 corridor between the I-287/I-87 interchange at Suffern, New York and the I-287/I-95 interchange in Port Chester, New York, including the Tappan Zee Bridge. The study evaluates service and potential linkage to existing commuter rail lines in three counties.

I-287 Corridor / Tappan Zee Bridge Program Management continued

As Program Management Consultant, AECOM has been responsible for a wide range of engineering and management services for this program, including: literature review, technical support for the environmental and preliminary engineering process, public outreach and participation, traffic planning, development of the project management plan, document control, administration, information systems, software, the program website, quality management, review of other consultants' work progress, project controls, cost management, scheduling, and change management.

LaGuardia Airport Modernization Planning and PM Services

New York, NY

Client

Port Authority of New York and New Jersey
One World Trade Center
Suite 1973
New York, NY 07036

Project Value

$800 million

Completion Date

2003

AECOM is providing planning and program management services for the modernization of LaGuardia Airport. The AECOM Team was responsible for planning and managing the $800-million, 10-year program encompassing new concourses in the central terminal building, new aircraft hangars, new airport access and egress roads, a planned parking garage, and major utility and infrastructure improvement projects. AECOM established the planning parameters, programming, and conceptual design of four new concourses to accommodate the upgauged aircraft necessary to meet growing air passenger demand, while operating within the limited number of aircraft operations possible at LaGuardia. The firm was responsible for identifying and establishing the requisite planning, scheduling, budgeting, environmental, and stakeholder outreach components of this program. Subsequent to the attacks of September 11, 2001, AECOM assisted the PANY&NJ and the airlines in assessing the alternatives for implementation of baggage screening requirements. This early action helped facilitate the implementation of the new screening systems in the existing terminals. In addition to AECOM's program management responsibilities, AECOM staff members function as project managers in the airport's facilities division. In this capacity, AECOM was responsible for managing ongoing concourse improvement projects, roadway improvement projects, utility design projects, parking studies, traffic engineering studies, and intelligent transportation system projects. Serving as an on-site extension of PANY&NJ staff, AECOM establishes project scopes, provides technical input and review of projects designed by PANY&NJ's Engineering Department and its consultants, and coordinates facility-wide review of projects.

PANY&NJ Professional Program/Project Management Services, Contracts 1, 2, and 3

New York and New Jersey

Client

PANY&NJ
225 Park Avenue South
18th Floor
New York, NY 10003
John Drobny
(973) 792-3527

Completion Date

Contract 1: 1998-2001
Contract 2: 2001-2004
Contract 3: 2007-2010

Project Description:

Contract 1: AECOM provided program/project management services to assist the PANY&NJ in managing their Capital Program and Major Works Projects. The project scope included providing project managers to be located at either the World Trade Center or the Technical Center, who were responsible for the day-to-day management of Port Authority projects. Project Managers were provided to the Engineering Department to work with the various Line Departments including Aviation, Terminals Bridges & Tunnels, Port Commerce, PATH, World Trade Center, and Economic Development.

Some of the projects AECOM staff managed include:

- Bayonne Bridge Deck Rehabilitation
- Holland Tunnel Architectural and Structural Rehabilitation
- Outerbridge Crossing Deck Rehabilitation
- JFK Central Substation Upgrade
- JFK Central Taxi Hold Expansion
- LGA Interim Improvements to Concourses A, B, and C
- LGA Deck Protection and Preservation Study
- Newark Airport Southern Access Roadway Project
- LGA Pavement Rehabilitation of Taxiway A

Contract 2: AECOM performed a second consecutive contract for program/project management services to assist the PANY&NJ in managing their Capital Program and Major Works Projects. Some of the projects AECOM staff has managed for the Port Authority include:

- TB&T Bayonne Bridge Deck Rehabilitation
- TB&T Holland Tunnel Architectural and Structural Rehabilitation
- TB&T Outerbridge Crossing Deck Rehabilitation
- PATH Restoration of Exchange Place Station - Post-9/11
- Ports 6 Projects for New Express-Rail at Port Elizabeth
- Ports Multi-Facility Maintenance Dredging
- JFK Central Substation Upgrade
- JFK Central Taxi Hold Expansion
- LGA Interim Improvements to Concourses A, B & C
- LGA Deck Protection and Preservation Study
- LGA Pavement Rehabilitation of Taxiway A
- EWR Southern Access Roadway Project - 3 Contracts
- EWR Central Terminal Area Roadway & Parking Lot Improvements
- EWR P4 Parking Garage & Monorail Station Expansion

Contract 3: AECOM is currently providing project management services for key PANY&NJ Capital Programs and projects on an extension of staff and on an on-call basis, including:

- SWF Development of 5-year Business and Capital Plan
- JFK Delay Reduction and Bay Runway Rehabilitation
- EWR/JFK/LGA Comprehensive Capital Program Scheduling Services
- PN/PE Express Rail and Truck Access Improvements
- EWR/JFK/LGA Capital and Major Works Programs project management support staffing

PANY&NJ - Security - Professional Design and Technical Services for Capital Security Programs on "Call-In" Basis

New York and New Jersey

Client
PANY&NJ
225 Park Avenue South
18th Floor
New York, NY 10003
Mike Valletta
(201) 595-4754

Project Value
$500 million

Completion Date
2008

Project Description:

The Port Authority (PA) selected AECOM to perform architectural and engineering services on an as-needed basis for Capital Security Program projects at Port Authority facilities for a five-year period. Work involved protecting terminals, airside and landside facilities, as well as infrastructure for aviation facilities including JFK International, LaGuardia, and Newark International Airports. The contract also included transit and marine facilities, tunnels, bridges, office buildings, and other Port Authority assets.

Approximately 60 percent of the identified projects were for the design and construction of physical security and force protection infrastructure, and 40 percent were in technology-based projects, including electronic security. AECOM's tasks included comprehensive perimeter security intrusion detection systems design for all the airports in the PA's jurisdiction, and waterside barriers and security for JFK and LaGuardia Airports.

Perimeter Intrusion Detection System (PIDS): The AECOM Team is providing technical services to assess existing physical security equipment, systems and operations as well as develop detailed functional requirements, conceptual layouts and design-build procurement documents for Perimeter Intrusion Detection System (PIDS) at aviation facilities. Civil engineering and security design services are being provided under additional task orders to upgrade perimeter security. The AECOM Team provided procurement support and developed a communications and electrical infrastructure and sensor, technology drawings, specifications and cost estimates. Telecommunications and electrical engineering studies and surveys have been conducted to assess the availability of existing communications and power infrastructure and to develop design requirements for redundant infrastructure services. Total cost of installations exceeds $130 million.

Waterside Security: AECOM developed a series of waterside security measures for the Port Authority including USCG Security Zone Exclusion Zone markers and physical barriers. The work included a detailed review of proprietary water barrier products and application of these systems to critical water perimeter zones around PA facilities. Concepts for physical barriers using standard marine construction techniques were also developed. Work included coordination with USCG, ACOE and the local environmental permitting authorities. Associated work includes development of technology solutions for detection and surveillance of the waterside perimeter using ground-based radar, digital video surveillance and CCTV cameras. Total cost of all installations exceeds $20 million.

AECOM's services included conceptual design, preliminary design, final design, electronic system design, contract document preparation, and post-contract award engineering support services.

Also under contract, AECOM developed the engineering for a two-track expansion of PATH's C Yard, including the complete design of civil, track, signals and communications systems.

Route 9A West Street Reconstruction Program

Lower Manhattan, NY

Client

New York State Department of Transportation
Region 10, State Office Bldg., 250 Veterans Memorial Highway
Hauppauge, NY 11788
Richard Schmalz
[redacted]

Project Value

$1.2 billion

Completion Date

ongoing

AECOM, in joint venture, is providing project management coordination for the Route 9A Lower Manhattan Redevelopment project (Phases I-IV). This project reconstructs Route 9A, also known as West Street, in the vicinity of the World Trade Center site. In addition to restoring vehicle traffic, the project will improve pedestrian movement along and across the roadway.

NYSDOT has a reconstruction project team in place, including consultants for traffic and highway engineering, tunnel and structural design (including pedestrian bridges) landscaping and environmental analysis. As program management and coordination consultant, the AECOM Team is coordinating the activities of all these consultants and assisting NYSDOT with project management. AECOM is also involved with the coordination of design activities being provided by various utility companies, State and City agencies, and the Port Authority of New York and New Jersey. This involves assisting the Department in providing project management and controls including scheduling, cost estimating, constructibility review of alternatives, construction contract packaging and construction phase acceleration, 3D modeling and visualizations, developing a public interaction framework, encouraging and providing for the community participation program for involvement throughout the process, and interpretation and project direction recommendations based on the community. The AECOM team also prepared the FHWA mega project financial management plan for the project and an independent risk analysis in accordance with FTA requirements.

NYSDOT, in conjunction with the FHWA, prepared the Supplemental Environmental Impact Statement (SEIS), which supplemented the 1994 Final EIS. An environmental consultant was retained by the NYSDOT to develop the SEIS, which comprehensively analyzed the changed conditions caused by the 9/11 attacks. The analysis was conducted in conformity with all federal, state, and city requirements, including NEPA and SEQRA. The analysis included detailed studies of social, economic, and environmental conditions, including but not limited to land use and neighborhood character, cultural resources, parkland and open space, visual character, traffic, pedestrians and bicyclists, public transportation, air quality, noise, and construction impacts.

The alternatives considered for Route 9A were the no action alternative ($135 million), the at-grade alternative ($265 million), and the short bypass alternative ($895 million to $3.2 billion depending on tunnel configuration). Preliminary designs were developed by three separate engineering teams for these alternatives.

The final design of the selected at-grade alternative is being coordinated by AECOM.

CTA Capital Improvement Program Management Services

Chicago, IL

Client

Chicago Transit Authority
567 West Lake Street, PO Box 7602, 4th Floor
Chicago, IL 60680-7602
John Trotta
[redacted]

Project Value

$5.1 billion

Completion Date

2009

AECOM is a joint-venture partner helping the Chicago Transit Authority manage an extensive five-year capital funded construction program. This multibillion-dollar investment will renew existing CTA facilities, bringing them to a state of good repair, and provide added capabilities to operate transit service. The construction program requires integration of multiple projects involving all elements of the CTA system.

The joint venture's role is to recommend proper management of the construction program, including identifying potential projects, prioritizing needed improvements, establishing individual project costs and implementation schedules, and integrating multiple projects into a coordinated implementation schedule. The joint venture is coordinating all program elements into a comprehensive and technically sound plan for the overall program, ensuring that the individual projects meet CTA's and its customers' demands. Staging of projects is critical because all services and facilities must remain operational during construction and essential passenger services cannot be interrupted. The joint venture is also responsible for maintaining procedures needed to ensure that the goals of the program are met. The joint venture also provides management reports and, as directed by CTA, performs project management functions.

The joint venture ensures that the program complies with the funding requirements of FTA, IDOT, the Regional Transportation Authority, and other involved funding sources. It also ensures that timely reviews and approvals are obtained from the Chicago Department of Transportation, the Chicago Department of Construction and Permits, the Chicago Office of Underground Construction, the Mayor's Office for People with Disabilities, the Illinois Historic Preservation Agency, and other outside agencies.

Key projects in the CTA capital program include:

- Brown Line capacity expansion ($530 million)
- Blue Line rehabilitation, Cermak Branch ($432 million)
- Blue Line rehabilitation, Dan Ryan Branch ($304 million)
- Power distribution and signals replacement/upgrade ($284 million)
- Infrastructure safety and renewal program ($138 million)
- Howard and Washington Street Stations reconstruction ($458 million)
- Control Center and SCADA operational system projects ($70 million)
- System-wide communication upgrades ($95 million)

Grand Central Terminal Infrastructure Rehabilitation

New York, NY

Client
MTA Metro-North Railroad
347 Madison Avenue
New York, NY 10017
Ronald T. Yutko
[redacted]

Project Value
$150 million

Completion Date
2000

Project Description:
AECOM, in joint venture with Turner Construction, provided construction management, including construction supervision, constructibility reviews, coordination of all project work, field inspection and testing, quality assurance, scheduling, and coordination of force account work, for this landmark rehabilitation. A thorough understanding of MTA Metro-North Railroad operations and maintenance needs, and maintenance and protection of rail and pedestrian traffic, were critical to this project's success, as the terminal is used by over half a million people a day.

AECOM provided construction management of the following projects, which had a total value of $150 million:

- North End Access Improvements
- Priority Structural Rehabilitation (South of 45th Street)
- Central Plant Utilities Improvements - Phase I
- Central Plant Utilities Improvements - Phase II
- Mechanical and Electrical Distribution Improvements - Phase I
- Mechanical and Electrical Distribution Improvements - Phase II
- Disabled Access Improvements
- Priority Structural Rehabilitation (North of 45th Street)
- Main Concourse Improvements
- New Station Masters' Office/ Building Systems Control Room
- Centralized Traffic Control Office Relocation
- New Water Mains/Services at 49th Street

AECOM's work routinely involved design and construction supervision for additions to, or omissions in, these design contracts. As part of the effort, AECOM coordinated and integrated Metro-North force account work into the program schedule. AECOM delineated all Metro-North force account work scopes and developed project budgets on a task and department basis for over $10 million of construction and construction support work for the main concourse, utility improvements, and retail development. This work involved Metro-North's transportation, track, power, electric, plumbing, and maintenance departments. Typical work included temporary light, power, and utilities; flag protection; and existing utility disconnects/reconnects. Once the work scopes and budgets were developed and reviewed with Metro-North, the work was logically tied into the contractor's approved baseline CPM schedule. This permitted the force account scope and associated schedule requirements to be flexible as the overall rehabilitation progressed. This approach also allowed Metro-North to plan, schedule, and budget the work forces effectively. AECOM chaired weekly track outage meetings and bi-weekly force account meetings to ensure information was disseminated in the proper fashion and schedule dates were met.

A key element of the rehabilitation was the provision of four new entrances/exits with direct access from the upper- and lower-level platforms of the terminal. Additional work included priority structural repairs, service plant utility improvements, mechanical and electrical distribution improvements and bringing the terminal into compliance with ADA standards.

Second Avenue Subway

New York, NY

Client
MTA Capital Construction/
New York City Transit
2 Broadway
New York, NY 10004
Anil Parikh
[redacted]

Project Value
$4.4 billion

Completion Date
2016

Project Description: AECOM, as part of a joint venture, is prime consultant for the engineering and design effort for the new Second Avenue Subway in Manhattan. This project represents the first major expansion of the MTA New York City Transit (NYCT) subway system in over 50 years. The increased rapid transit capacity provided by the new line will relieve the excessive crowding currently prevalent on the Lexington Avenue subway, one of the most congested rapid transit corridors in the United States.

The conceptual design/preliminary engineering phase of the project started in December 2001 and was completed in April 2006 (after several extensions to the preliminary engineering phase). The conceptual design/preliminary engineering work included design of all four phases of the project.

The Second Avenue Subway will be underground for its entire 8.5-mile length, running between Harlem in the north and Hanover Square in the south (in the financial district). Sixteen stations are planned: at 125th, 116th, 106th, 96th, 86th, 72nd, 55th, 42nd, 34th, 23rd, 14th, Houston, and Grand Streets; and at Chatham Square, the Seaport, and Hanover Square. Initial service will begin in Phase I between 96th Street and the existing Broadway line, by using a yet-to-be-built connection to the existing 63rd Street line. The existing station at Lexington Avenue on the 63rd Street line will be rehabilitated and expanded as part of the project to make older tracks (built as part of the original construction in the 1970s) operational. In addition, several transfers to existing stations on east-west lines are being evaluated, with the aim of increasing the lines' usefulness and improving overall system connectivity and flexibility. The construction of the line will involve various tunneling techniques, including boring with tunnel-boring machines (TBM), cut-and-cover, and mining.

AECOM has taken a leading role in key aspects of planning and design. During the environmental impact statement's alternatives analysis process, the firm developed alignment and station alternatives that met project objectives while minimizing potential environmental, social, and operational impacts. The complexities of financing and constructing such a large project have been addressed by innovative design and contracting packages developed by AECOM. The firm has also developed innovative architectural designs for the stations, entrances, and other ancillary facilities, as well as a progressive strategy for their integration into the communities in which they are sited. Special emphasis has been placed on the use of sustainable materials, and on the development of an overall green design strategy that reduces energy use. Methods include introducing natural light into the station mezzanines (and even the platforms in some cases); high-efficiency lighting design; and a line profile that reduces the acceleration and braking efforts of the trains.

Final design of Phase 1 of the Second Avenue Subway was awarded to AECOM in April 2006. The first phase—between 96th Street and the connection with the existing 63rd Street line, and with stations at 96th, 86th, and 72nd Streets—is now in final design. Each station, the TBM tunnels, and the systems work are being prepared as individual contracts. Contract No. 1 (TBM tunnels from 92nd Street to 63rd Street) is now under construction, with an anticipated completion date sometime in 2011. The initial operating segment is scheduled to commence operation in 2016.

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

Section E: Staff's Qualifications and Experience

The AECOM Team has assembled a team of leading professionals to provide expert professional planning, oversight and related services as required for the PATH system. Our proposed staff is a diverse team with the correct balance of transit planning, railway engineering, "Call-In" support, project management, and Port Authority experience.

Leading our team is our Project Manager, Gary Matz, PE. A seasoned engineer, Mr. Matz has extensive experience overseeing and developing designs for large, multidiscipline, and technically complex capital projects. He manages program management, design and construction services for architectural, structural, civil, and rail transit projects and has developed award-winning, innovative engineering solutions for a wide variety of projects. In addition, he has served as an advisor to senior client managers and provided high level technical support of third party coordination and negotiations. Currently, Mr. Matz is the Project Manager on the Port Authority's Logistics Planning Support Services Task under the PATH's Capital Program Planning during 2008-2016.

Supporting Mr. Matz on this project is roster of specialists including Michael Marino as Senior Planning Manager and Robert Totillo as our proposed Officer-in-Charge. Mr. Marino has extensive experience in the railroad industry, including 25 years at Amtrak. Mr. Marino has managed all varieties of railroad-related construction projects – from track installation to the building of shop and yard facilities. Currently, Mr. Marino is Senior Planning Manager for the Port Authority's PATH Capital Program Logistics Review and Recommendations project.

Our proposed Officer-in-Charge, Robert Totillo, a Vice President at AECOM, has extensive experience directly related to management, design, and construction of train control, communications, and traction power systems for rail transit systems and railroads. This experience includes project management, project administration, engineering and design of the system elements of heavy rail, light rail, and commuter rail. Prior to joining AECOM, Mr. Totillo was the chief operating officer for Egis Semaly; executive vice president and director of the northeast region for Systra; and CEO of Rail Transportation Systems, Inc.

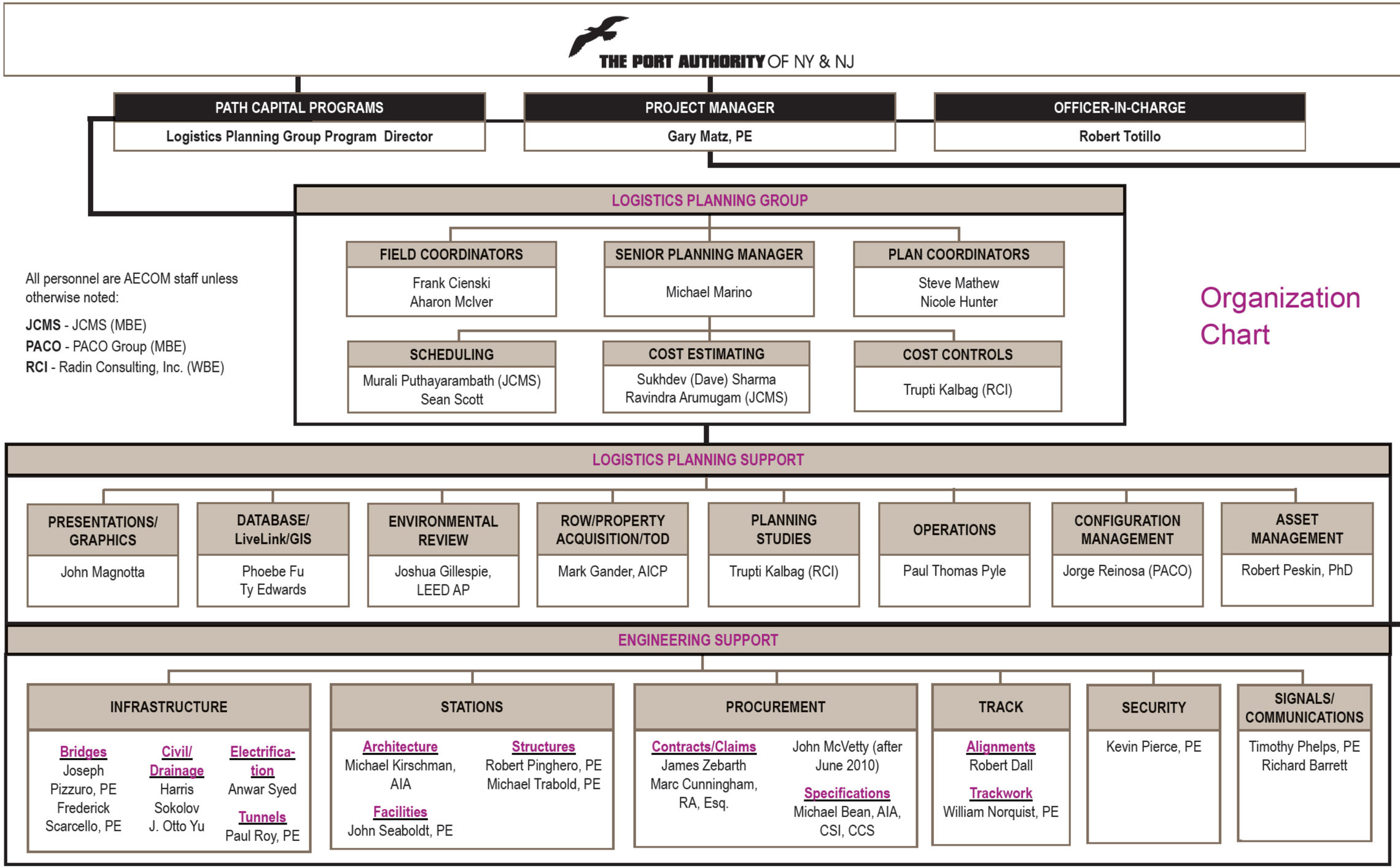
We are proud to be able to offer these individuals, as well as the balance of our proposed team. Taken together, they bring an unparalleled wealth of experience and we strongly believe they are the best team for the program. We have deliberately kept the number of subconsultants to a minimum to simplify the coordination process, and this makes for a tight team that will provide a streamlined approach to the design.

Resumes and licenses for our proposed staff are presented on the following pages. An organization chart clearly outlining individual responsibilities and place within the overall project organization is presented on the next page.

Organization Chart

All personnel are AECOM staff unless otherwise noted:

JCMS - JCMS (MBE)
PACO - PACO Group (MBE)
RCI - Radin Consulting, Inc. (WBE)



Gary D. Matz, PE

Project Manager

Firm: AECOM

Education

BS, Civil Engineering

Virginia Polytechnic Institute and State University, Blacksburg, VA, 1985

Registrations

Professional Engineer: New York, 1990, No. [redacted]

Professional Engineer: New Jersey, 2001, No [redacted]

Professional Associations

American Society of Civil Engineers - North Jersey Branch Transportation Technical Group - Past Chair and Active Member

Awards

Performance Excellence and Recognition, East Side Access Project, May 2003

Employment History

2002-present: AECOM, Project Manager/AVP

1999 - 2002: Gannett Fleming, Project Manager/Senior Associate

1996 - 1999: STV, Project Manager/Senior Civil Engineer

1990 - 1996: Cashin Associates, P.C., Deputy Civil Department Manager

1985 - 1990: Hawkins Webb, Jaeger and Associates, Project Manager/Civil Engineer

A seasoned engineer, Mr. Matz has extensive experience overseeing and developing designs for large, multidiscipline, and technically complex capital projects. He manages program management, design and construction services for architectural, structural, civil, and rail transit projects and has developed award-winning, innovative engineering solutions for a wide variety of projects. He is skillful in the use of cost control measures and applications and is a highly regarded manager and coordinator of subconsultants and technical specialists. He has served as an advisor to senior client managers and provided high level technical support of third party coordination and negotiations.

Port Authority of New York & New Jersey, PATH Capital Program Planning (2008-2016), Jersey City, NJ: Project Manager for the Logistics Planning Support Services Task under this assignment. This task includes developing and implementing new management processes and procedures focused on long-range planning and master scheduling of all PATH facility forces; meeting equipment needs as well as track rights to support the Capital Program through year 2016; and planning for ongoing system repair and maintenance work and various other construction activities. The Logistics Planning Group coordinates with PATH's Transportation, Way and Structures, and Power, Signal and Communications Divisions, as well as project managers from the Port Authority's Construction Management Division and the World Trade Center, in preparing master monthly and weekly track usage plans, identifying and mitigating potential conflicts, and monitoring day-to-day implementation of scheduled field activities. Responsible for technical support staffing, task budgets and invoices. Took part in Port Authority senior management and Chief of Capital Planning briefings.

NJ TRANSIT/Port Authority of New York and New Jersey, Trans-Hudson-Express (THE) Project, Secaucus, NJ and New York, NY: Chief Civil Engineer and Technical Support Manager for the preliminary engineering phase for this $8-billion project. The project is 9.2 miles in length and includes the addition of new double track from the Secaucus Transfer Station leading to the two new single track tunnels under the Hudson River. In Manhattan, the tunnels will lead to a new deep cavern, six-track passenger station built 150 feet below 34th Street between 6th and 8th Avenues, adjacent and connected to existing Pennsylvania Station. The project also includes new train storage facilities at the new Kearny Rail Yard in New Jersey. Responsible for the concept and preliminary design effort including design and investigation reports, alternative alignment studies, civil plans (including track alignments, general sitework, grading and drainage, staging/MPT, ROW, street utilities, wetlands delineation and impacts), specifications, and cost estimates. Produced and monitored design task scopes, deliverables, schedules and budgets. Developed and managed subconsul-

tant and subcontractor contracts. Coordinated with and reviewed design drawings and reports produced by all design disciplines.

MTA Capital Construction/New York City Transit, Second Avenue Subway Project, New York, NY: Chief Utility Engineer for the preliminary and final engineering of this $17-billion project, as well as the final design of the first contract. The project is a new 8.5-mile-long subway line with 16 stations on the east side of Manhattan. The subway will connect to the existing subway system at three locations and to the existing bus system at almost every station. Tunneling will involve use of various techniques, including tunnel boring, cut-and-cover, and mined sections. The train control system will be an advanced communications-based system. Responsible for the concept and preliminary design effort, including design and investigation reports, studies, plans, specifications, and cost estimates. Produced and monitored design task scopes, deliverables, schedules, and budgets. Supervised the field investigation program. Developed construction schedules and staging plans. Supervised preparation of the design-build contract documents. Acted as project liaison for all outside utility coordination, and chaired a monthly coordination meeting.

MTA Capital Construction/New York City Transit, Fulton Transit Center - Dey Street Concourse Design-Build, New York, NY: Chief Civil Engineer for this $160-million design-build project. The project includes a 400-foot-long cut-and-cover tunnel under a busy city street and operating subway lines that will eventually link the Fulton Street Transit Center (servicing the A, C, J, M, Z, 2, 3, 4, 5 subway lines) with the World Trade Center Transportation Hub. Responsible for final design of all civil work related to the project, including street utility relocations and new services, roadway restoration, traffic signals, and under-slab drainage. Produced and monitored design task scopes, deliverables, schedules, and budgets.

MTA Capital Construction/Long Island Rail Road, East Side Access Project – Queens Yards and Shops, New York, NY: Design Package Manager for the East Side Access Mid-Day Storage Yard and Contract Package Manager for the Arch Street Yard and Shop for this $6.3-billion project. The project includes 9.5 miles of new tunnels with 13 miles of new track. The new LIRR terminal will be a deep-mined eight-track station approximately 140 feet below street level, consisting of two caverns containing four tracks each, stacked two over two. Responsible for the concept and preliminary design of the maintenance shop and mid-day yard facilities to support the new fleet of vehicles dedicated to this new service. Manage design and investigation reports, studies, plans, specifications, and cost estimates. Supervised preparation of the design-build contract documents for the Arch Street Yard and Shop. Produced and monitored design task scopes, deliverables, schedules, and budgets. Managed subconsultants and discipline leaders. Oversaw day-to-day field investigation activities. Coordinated with and reviewed design drawings and reports by all project disciplines. Developed construction schedules and staging plans. Chaired bi-weekly client progress meetings for yards and shop design development. Participated in the development of project-wide CADD standards and procedures. Managed QA/QC compliance. Participated in peer reviews and value engineering exercises.

NJ TRANSIT, Hudson-Bergen Light Rail System (Initial Operating Segment), Jersey City, NJ: Construction Package Manager for this $1.3-billion DBOM project. Responsible for the final design of all civil/site work for the 10-mile “initial operating segment” that connected the Hoboken Terminal to 34th Street Bayonne and Westside Avenue in Jersey City. Managed discipline leaders in preparation of construction drawings for design-build contractor. Managed subconsultant contracts, and monitored and assured quality of the work. Acted as liaison for third party coordination including property owners and developers, utility owners, community leaders and local residents. Developed alternative track alignments and profiles, station locations, roadway crossings, shared vehicle right-of-ways, 5 station plazas, shop and yard parking areas and access roads to meet State DOT, local and ADA Standards. Coordinated other engineering disciplines and the ongoing construction activities. Developed CADD standards for use in the preparation of over 3,000 design drawings.

Robert M. Totillo

Officer in Charge

Firm: AECOM

Education

BS, Electrical Engineering, Clarkson University, Potsdam, NY, 1965

Employment History

2006-present: AECOM, Rail/ Transit Systems Leader

2004-2006: Egis Semaly, Chief Operating Officer

1997-2004: Systra, Executive Vice President and Director of the Northeast Region for

1991-1997: President & CEO of Rail Transportation Systems, Inc.

Mr. Totillo has extensive experience directly related to management, design, and construction of train control, communications, and traction power systems for rail transit systems and railroads. This experience includes project management, project administration, engineering and design of the system elements of heavy rail, light rail, and commuter rail. Prior to joining AECOM, he was the chief operating officer for Egis Semaly; executive vice president and director of the northeast region for Systra; and CEO of Rail Transportation Systems, Inc. from 1991 until the merger of RTS and LSTS.

MTA New York City Transit, NY: Project executive for signaling and communications contract with New York City Transit.

MTA Long Island Rail Road (LIRR), NY: Project principal for several signal contracts with the LIRR, including interlocking design and checking.

Transit Control Center, MTA New York City Transit, NY: Project manager responsible for the planning and design of a new transit control center.

Grand Central Terminal Upgrades, MTA Metro North Railroad (MNR), NY: Deputy project manager responsible for design review and construction management of the re-signaling of Grand Central Terminal, including microprocessor-based interlockings and a new computerized control center.

Zone II Heavy Rail Project, MTA New York City Transit, NY: Project manager responsible for technical support and project management.

Green Line Driverless LRT Project, Los Angeles County Metropolitan Transportation Authority (LACMTA), Los Angeles, CA: Project manager responsible for train control technology evaluation. Responsible for technology evaluation and trade-off studies analyzing central vs. wayside vs. carborne ATC orientation; analyzing fixed vs. moving block ATC; and analyzing inductive vs. transmission-based ATC. Responsible for preparation of the ATC system description that was used as the basis of design. Responsible for preparation of specifications and drawings concentrating on the technical requirements of the central supervisory control hardware and software for this microprocessor-based train control system.

Harlem River Drawbridge Cable System, MTA Metro North Railroad (MNR), NY: Project manager responsible for the design of a new cable system to replace submarine cables under the Harlem River Drawbridge. This design work included signals, communications, traction power, and bridge control.

VHF Radio Augmentation, MTA Metro North Railroad (MNR)/ Connecticut Department of Transportation (ConnDOT), CT: Project manager responsible for the replacement and augmentation of the existing VHF voice radio communications to meet FRA mandates.

Robert M. Totillo continued

Peck Drawbridge Replacement, MTA MNR)/Connecticut Department of Transportation (ConnDOT), CT: Project manager responsible for construction management and inspection of the system elements associated with replacement of the Peck Drawbridge.

Circuit Design, MTA MNR, NY: Responsible for the detailed signal circuit design and construction support services on the commuter mainline from Hicksville to Ronkonkoma.

Value Engineering, NJ TRANSIT, NJ: Responsible for value engineering on the North Jersey Coast Line commuter rail project.

Communications Projects, New York Central Railroad, NY: Engineer responsible for the design and installation of various CTC, signal, and communications projects.

John Cabot Lodge Heavy Rail Yard, Massachusetts Bay Transportation Authority (MBTA), Massachusetts: Engineer responsible for preparing preliminary design specifications for the John Cabot Lodge Heavy Rail Yard.

Heavy Rail Automatic Train Control System, Washington Metropolitan Area Transit Authority (WMATA), Washington, DC:Senior engineer responsible for preparing preliminary design documents and design/installation specifications and drawings for the Heavy Rail Automatic Train Control System. Provided additional ongoing engineering services, including monitoring the contractor design and installation of the system. Responsible for the central supervisory control portion of the technical specifications.

Light Rail Transit System, Port Authority Transit (PAT), Pittsburgh, PA: Project manager responsible for systems work on the $480-million rehabilitation of the Pittsburgh LRT system. Responsible for managing the design, engineering, and testing of the system elements, including traction power, catenary, signals, and communications.

Intermodal Facility, Sea-Land, Bedford Park, IL: Project manager responsible for conceptual, preliminary, and final design of Sea-Land's intermodal facility. Work included managing the design efforts of personnel located in Atlanta and Chicago. Also provided client liaison and coordination.

Northeast Corridor Improvement Project, U.S. Federal Railroad Administration (FRA), Philadelphia, PA, and Arlington, VA: Project manager responsible for providing technical support and planning to the FRA's Project Control Division relating to the Northeast Corridor Improvement project. Specific duties included staff supervision, liaison with the Federal Railroad Administration, and technical supervision of project staff located on-site at the FRA in Arlington, Virginia, and Philadelphia, Pennsylvania.

MTA Transit Federal Transit Administration (FTA), Baltimore, MD: Responsible for project management oversight of the system elements for MTA transit work.

Market Frankford Street Elevated Automatic Train Control, Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, PA: Member of the board of control for the joint venture for the Market Frankford Street elevated ATC project.

Port Authority of Allegheny County (PATCO) Reverse Signaling, Delaware River Port Authority (DRPA): Member of the board of control for the joint venture for PATCO reverse signaling.

MTA Blue Line, Los Angeles County Metropolitan Transportation Authority (LACMTA), Los Angeles, CA: Project manager responsible for train control and signal system design from system engineering through detailed circuit design for the Blue Line from Long Beach to Los Angeles. Provided technical oversight for the construction phase.

MUNI ATCS Project, Federal Transportation Administration, San Francisco, CA: Project management oversight of the Alcatel Seltrac System. Responsible for reviewing analysis and test results of safety related items for the wayside and vehicle train control system.

Michael P. Marino

Senior Planning Manager

Firm: AECOM

Professional Associations

American Society of Military Engineers (ASME)

Metropolitan Railroad Club, New York, and Philadelphia

Employment History

2006-present: AECOM, Transit/ Rail Project Manager

1976-1986: Amtrak, NY, Equipment Engineer

1987-1990: Amtrak, NY, Project Engineer

1991-1992: Amtrak, NY, Resident Engineer

1993-1995: Amtrak, NY, Staff Engineer

1995-1999: Amtrak, NY, Superintendent of Terminal Service

2000-2005: URS Corporation, NY, Director, Force Account Construction

2005-2006: McKissack Group, Inc., NY, Director Rail/Transit

With vast experience in the railroad industry, including 25 years at Amtrak, Mr. Marino has managed all varieties of railroad-related construction projects – from track installation to the building of shop and yard facilities. Mike served Amtrak in numerous project leadership capacities, including Superintendent of Terminal Service for the New York region, where his assignments included Sunnyside Yard's $100-million high-speed Acela trains sets' maintenance shop construction; reconstruction of "Q" Interlocking; managing catering services for all product lines; and managing a $30-million annual operating budget for Sunnyside Yard and Penn Station. In the Northeast he has also worked on projects for LIRR, NJT, SEPTA, MNR, and NYCT.

Port Authority Trans-Hudson (PATH) Capital Program Logistics Review and Recommendations, New York: Senior planning manager on this project, which involves reviewing the PATH $2.5-billion capital program that will be underway from 2009-2015. Mr. Marino is leading a team of six transportation professionals assessing this program for scheduling, project controls, force account assignments, train operations revisions, etc. Working internally with PATH personnel, the project team is developing a logistics plan that can be implemented by PATH to accomplish the projected scope of these projects: the complete rebuild of the entire PATH transportation system and infrastructure, to be accomplished while maintaining train operations between New York and New Jersey. Responsibilities include preparing master monthly and weekly track usage plans, identifying and mitigating potential conflicts, and monitoring the day-to-day implementation of scheduled field activities. Specific projects include: managing oversight of the Harrison Yard soil removal; planning for new rail storage facilities at Harrison and D yard; construction phasing oversight for the signals program; coordinating track usage and facility force support tunnel hardening program; and construction phasing support planning for the WTC projects that require PATH support. Furthermore, Mr. Marino furnishes daily status reports each morning to the PATH Project Manager and to the PATH Assistant Director of Capital Programs, as well as monthly reports to the Executive Director of PATH and to the PANYNJ Executive Director.

Access to the Region's Core (ARC) Mass Transit Tunnel (formerly Trans-Hudson Express Tunnel), Newark, New Jersey: Senior railroad force account project manager for all the railroad support required to accomplish the construction of this $7.2-billion project, which is expected to more than double the transit agency's commuter rail capacity between New Jersey and New York by 2016. AECOM is the management lead for facilities design and also has a lead role for civil engineering and technical support

Michael P. Marino continued

services, heavily involved in rail systems, tunneling, risk management and project delivery. Mr. Marino's tasks include planning, scheduling and managing railroad operations and providing engineering support to Amtrak and New Jersey Transit for construction of the tunnel project. The tunnel will feature a new two-cavern, eight-track passenger station 120 feet under 34th Street in Manhattan, between Sixth and Eighth Avenue, adjacent and connecting to the existing Pennsylvania Station. It also includes two new bored tunnels under the Hudson River between New York and New Jersey, and bored and sequential excavation tunnels in Manhattan. In addition, the project includes track expansion and connections and train storage facilities in the Meadowlands, located in East Rutherford, New Jersey.

Atlantic Yards/Nets Arena, Replacement of LIRR VD Yard, Brooklyn, NY: Director of rail/transit for this $200-million infrastructure project involved the relocation of the Long Island Rail Road's VD Yard to accommodate the construction of the new Brooklyn Arena for the NBA's Nets basketball team. The scope of railroad work included new track, switches, traction power and substation, upgraded signal system, toilet servicing, and structures. The civil scope of work included the demolition and replacement of the Carlton Avenue Bridge, replacement of perimeter retaining walls, installation of foundations to support a future overbuild, site and street utility relocations, and a cut-and-cover tunnel under Atlantic Avenue. The work is phased to allow continued LIRR operations in the yard.

Moynihan Station, New York, New York: Officer-in-charge for this Midtown West development project to transform the James A. Farley postal facility into a new 400,000-square-foot intermodal transportation facility. The scope of work involved constructing a new passenger concourse in the Moynihan Station and required lowering catenary and signal communication lines by qualified Amtrak personnel. The railroad scope of work was valued at $28 million over an 18-month schedule, utilizing 26 discrete work zones to allow for minimal impact to the train operations of Amtrak, LIRR, and NJ Transit.

Metropolitan Transportation Authority, East Side Access, New York, New York: Director of force account construction for this $6.3-billion, 7-mile tunnel extension of the MTA's LIRR system to Grand Central Terminal. Responsible for managing all force account activities, including estimating, scheduling, resource planning, constructibility, cost and quality control, and construction management. Served as a member of the joint terrorism task force for security planning for the project. Interacted with all police and security agencies covering the project (MTA Police, NYPD, Homeland Security, FBI ,NYSP, NJSP, and NYFD).

Amtrak, New York, New York: As superintendent of terminal service, his projects included the $100-million High-Speed Rail Project Shop Construction in Sunnyside Yard, the Sunnyside Security Project, reconstruction of "O" Interlocking, and Engine House replacement. Managed a $30-million annual operating budget with responsibility for operating and maintaining Sunnyside Yard and Penn Station train operations.

- As a staff engineer, responsible for a $29-million annual operating budget with responsibility for supervising all construction projects in the New York Division, which included NYCDOT, NJDOT, LIRR, NJT, and Metro-North.
- Resident Engineer, responsible for $100-million annual capital construction program for all construction projects in the New Jersey territory of the New York division.
- As a project engineer, responsible for Penn Station projects, including the O & Y Project, Madison Square Garden, and ventilation system for the Empire Tunnel.

Frank J. Cienski

Field Coordinator

Firm: AECOM

Employment History

2007-present: AECOM, Resident Engineer

1977-2007: Amtrak, Safety liaison officer

Mr. Cienski has extensive experience with force account and operational planning and scheduling in the railroad industry, and has been involved in all types of railroad-related construction projects. His experiences and knowledge of the railroad industry have allowed him to participate in a wide range of projects from track installation to safety inspections to estimating and planning services. He has served as a construction manager for the Farley/Moynihan Station project and the $6.3 billion East Side Access project for the MTA in Grand Central Station, and project superintendent for the Nets/Brooklyn Arena project in the LIRR V.D. Yard. Mr. Cienski's experiences within the railroad industry have included assignments for Amtrak, Long Island Rail Road, New York City Transit, and the Metro-North Railroad. During his time with Amtrak, Mr. Cienski was the president and New York State legislative director with the Brotherhood of Maintenance of Way Employees (BMWE) for close to 15 years.

Port Authority of New York & New Jersey, PATH Capital Program Planning (2008-2016), Jersey City, NJ: Developing and implementing new management processes and procedures focused on long range planning and master scheduling of all PATH facility forces and equipment needs as well as track rights to support to the capital program through year 2016, on-going system repair and maintenance work and other various construction activities.

Brooklyn Battery Tunnel, MTA Bridges and Tunnels, New York, New York: Construction manager and inspector with the highway and bridge department for concrete repairs at the Battery Tunnel facility.

Bronx Whitestone Bridge, MTA Bridges and Tunnels, New York, New York: Construction manager and inspector for joint and full deck repairs.

Nets/Brooklyn Arena, MTA Long Island Rail Road: Project superintendent for the initial construction for this project. Responsibilities included planning, estimating, and scheduling; and the coordination and supervision of the tasks involved for the environmental impact study, geotechnical investigation, and track construction and relocation. Coordinate, monitor, review and approve the associated invoicing for the force account services that were provided for these tasks and participate in the cost control processes.

East Side Access, MTA Long Island Rail Road: For this $6.3 billion,7-mile tunnel extension to Grand Central Terminal, responsible for the oversight, reporting, and coordination efforts to provide personnel and equipment access, and protection to perform tasks onto the following operating railroads and systems: Metro-North Railroad, Long Island Railroad, New York & Atlantic Railway, Amtrak, and New York City Transit.

Frank J. Cienski continued

Various Projects, Amtrak, New York, New York:
Safety liaison officer responsible for all safety and security-related issues and concerns between labor and management, crossing all crafts and all levels of management throughout the northeast corridor. These items included site-specific project planning, hazard assessments, job safety analyses, site security review, force account and scope requirements, training design and instruction, and accident investigation. Organized and facilitated group and committee activities. Projects included the Secaucus Transfer, Newark Airport, and Westside Development, as well as various bridge and track rehabilitation projects in the northeast region.

As an equipment foreman, responsibilities included to direct, plan, repair, maintain, and work with all types of railroad maintenance and construction equipment for all MW engineering departments with several million dollars worth of material and equipment. Supervised the maintenance of equipment, record keeping, various equipment and component inspections, ordering and monitoring the flow of parts for repairs, and force account and equipment scheduling. The equipment was used in many large-scale projects such as the East River Tunnel Rehabilitation, NECIP, West End Concourse, and other track and bridge construction operations in PSNY, and all other maintenance functions on and around the New York division. Other qualifications include NORAC operating rules, AMTII electrical rules, physical characteristics, MW1000 track construction, and RWP roadway worker protection regulations.

Aharon McIver

Field Coordinator

Firm: AECOM

Education

BS, Civil Engineering, West Virginia University, 2002

Employment History

2007-present: AECOM, Document Control Coordinator

2004-2007: The McKissack Group, New York, NY, Project Engineer

2003-2004: Builder's Group, New York, NY, Assistant Engineer

2000-2001: Turner Construction, Morgantown, WV, Project Engineer

Mr. McIver has extensive experience in field construction serving as a Project Coordinator and Project Engineer for various transit projects.

New York City Economic Development Corporation, New York, NY, Cruise Terminal Redevelopment, Resident Engineer: Job responsibilities include preparing daily field reports and weekly logs of work completed, providing photograph documentation of work, and reviewing job progress. Responsibilities also include scheduling and conducting weekly job progress meetings, including preparation and distribution of meeting minutes, reviewing contractor change orders and applications for payment. Marine Rehabilitation $9.5 Million Unit Cost.

Confidential Utility Company, Newark, NJ, Remediation of Former Manufactured Gas Plant Sites. Project Control Specialist: Job responsibilities include working under the direction of four project managers and with environmental consultants and remediation contractors on behalf of the client to help manage budgets ranging from approximately $1 million to $30 million per construction site. Responsibilities also include project cost and schedule tracking, invoice management and tracking, budget projections, risk analysis, bid analysis/bidder selection for multiple projects, requests for proposals, compile bid packages and prepare meeting minutes.

Forest City Ratner, Atlantic Yards Project, LIRR Vanderbilt Yard Relocation, Assistant Project Manager: Job responsibilities included assisting the Project Manager and Superintendents with their duties, managing all project management documents using Prolog Manager, reviewing and processing contractor Application for Payments and construction change orders. Reviewing and processing all LIRR and NYCT Force Account invoices. Project value: $275 million (lump sum)

Hudson River Park Segment 6, Pier 66 Project, Lead Project Engineer: Job responsibilities included assisting the Project Manager and Superintendent with their duties, managing product submittals, writing RFI's, reviewing and processing contractor Application for Payments, preparing and issuing construction change orders, providing training sessions to all new project personnel/contractors on the project-wide management software, updating and maintaining contract documents and record keeping. Project value: $28 million (lump sum)

Hudson River Park Segment 6, Pier 84, Lead Project Engineer: Job responsibilities included assisting the Project Manager and Superintendent with their duties, managing product submittals, writing RFI's, reviewing and processing contractor Application for Payments, preparing and issuing construction change orders, providing training sessions to all new project personnel/contractors

Aharon McIver continued

on the project-wide management software, updating and maintaining contract documents and record keeping. Project value: $45 million (lump sum)

Hudson River Park Project Segment 7, Pier 96 Boathouse/Clinton Cove Park, Project Engineer: Job responsibilities included assisting the Project Manager and Superintendent with their duties, managing product submittals, writing RFI's, daily construction reports, updating and maintaining contract documents and record keeping. Project value: $8 million (lump sum)

Builder's Group, New York, NY, Assistant Project Manager: Job responsibilities included assisting various project managers with managing product submittals, writing RFI's, updating drawings, and miscellaneous office duties.

Turner Construction, Morgantown, WV, West Virginia University, Wise Library Addition & Renovation, Project Engineer: Job responsibilities included managing product submittals, writing RFI's, updating drawings, preparing and issuing construction change estimates, verifying daily construction reports, monthly job status reports, miscellaneous office duties. Project value: $36 million (lump sum)

Steve Mathew

Plan Coordinator

Firm: AECOM

Education

BS, Civil Engineering, Manhattan College, NY, 2004

BS, Mathematics, Saint Thomas Aquinas College, Sparkill, NY, 1998

Employment History

2007-present: AECOM, Field Office Engineer

2006 – 2007: GEA Engineering, P.C., Nanuet, NY, Staff Engineer

2005 – 2006: Y.E.C. Inc., Valley Cottage, NY, Staff Engineer

2004 – 2005: Azzolina, Feury, and Raimondi, Paramus, NJ, Engineering Staff Assistant

2004: New York State Thruway Authority, Suffern, NY, Transportation Construction Inspector

2002 – 2003: Dianon Systems, New City, NY, Processing Aide

2001 – 2002: Good Samaritan Hospital, Suffern, NY, Admitting Registrar

Mr. Mathew has over 5 years of experience in field construction serving as a Field Inspector and Assistant Office Engineer.

Port Authority of New York & New Jersey, PATH Capital Program Planning (2008-2016), Jersey City, NJ: Developing and implementing new management processes and procedures focused on long range planning and master scheduling of all PATH facility forces and equipment needs as well as track rights to support to the capital program through year 2016, on-going system repair and maintenance work and other various construction activities.

Yankee Stadium City Work Project: Office Engineer Coordinate, schedule, and preside over meetings and site walkthroughs with contractors, agencies, and utility companies. Prepare meetings minutes, and maintain communication with contractors, agencies and utility companies. Review drawings and documents. Maintained and organized files. Evaluated payment requisitions from contractors for submission to city agencies. Prepared reports.

GEA Engineering, P.C., Nanuet, NY: Staff Engineer Performed calculations and worked on drawings for various projects. Prepared reports. Performed fieldwork, including topographical surveys, percolation tests, and sampling. Maintained contact with clients and contractors.

Y.E.C., Inc., Valley Cottage, NY: Staff Engineer - Provided lead inspection for work on construction projects in the New York City subway system. Conducted groundwater monitoring, product recovery, and sampling activities at New York City bus depots. Prepared reports.

New York State Thruway Authority, Suffern, NY: Transportation Construction Inspector - Gained experience in many aspects of construction. Ensured that construction was in accordance with government specifications. Performed calculations and measurements, as well as prepared reports.

Nicole L. Hunter

Plan Coordinator

Firm: AECOM

Professional Associations

Women in Transportation (WTS)

New York Building Congress

CMAA

American Society of Civil Engineers (ASCE)

Society of Military Engineers

Employment History

2008-present: AECOM, Civil Project Controls Engineer

2007-2008: Banc3, Inc., Project Controls, Senior Cost Engineer

2005-2007: The McKissack Group, New York New York, Senior Cost Engineer/Business Development and Marketing Associate

2003-2005: Bechtel Corporation, Force Account Cost Engineer

2002-2003: Kiewit/FCI/ Manson, Skyway project, Oakland, CA, Business Manager

2001-2002: E-Logic Corporation, Marina Del Rey, CA, Marketing Specialist

1991-2000: Bechtel Systems & Infrastructure Inc., Boston, MA, Construction Cost Controls Engineer

Ms. Nicole Hunter is a Construction Management professional with over fifteen years of hands-on experience in Business Development, Marketing, Project Controls and Procurement. She is a proven leader implementing and overseeing projects, and managing multi-billion dollar budgets. Ms. Hunter has an exemplar reputation and track record of ensuring that deliverables are produced on schedule and within budget.

AECOM, Amtrak 1st Avenue Ventilation Shaft Project, New York, New York: Project Controls Engineer. Provides comprehensive financial and progress reporting for the reconstruction and upgrading of two existing East River Railroad Tunnel emergency facilities along First Avenue, at East 33rd Street and East 34th Street in New York City. Analyzes baseline schedules and performs schedule updates. Monitors schedule delays, track progress in the field, track contract changes, analyze time extension requests and project phase changes, evaluates value engineering impacts, and process Change Orders. Reviews and approves Vendor and Subcontractor Invoices. Manages the Expedition database to ensure all financial, contractual and required documentation and submittals have been submitted and distributed per specification.

Banc3, Inc., Access to the Region's Core (ARC) Mass Transit Tunnel (formerly Trans-Hudson Express Tunnel), Newark, New Jersey: Project Controls, Senior Cost Engineer. Provides comprehensive financial and progress reporting for the $6 Billon Access to the Regions Core (ARC) Mass Transit Tunnel (formerly Trans-Hudson Express (THE) Tunnel). Efficiently synchronizes the financial and scheduling reporting utilizing the Work Breakdown Structure (WBS) whereby reducing errors and turn-around time for invoice and progress report submission. Other project interfaces include: provides support to Task Leads and Package Managers gathering Earned Value and Progress data, implements Change Orders, and attends Package Manager Status meetings. Effectively coordinates and reports to the clients, NJ TRASIT and PANYNJ per request or scope requirement.

The McKissack Group, New York New York: Senior Cost Engineer/ Business Development and Marketing Associate. Developed and managed Project Controls coordination, reporting and identifying cost trends. Coordinated financial tracking, invoicing and reporting of projects. Prepared Qualification Proposals for RFP submissions. Managed, grew and increased profits via Business Development and Marketing functions. Developed new and managed existing client, contractor and fellow business relationships. Company representative for presentations, conferences and all meetings.

Bechtel Corporation, East Side Access Project, New York, New York: Force Account Cost Engineer. Performed Cost Control and Analysis activities in the Railroad Force Ac-

count Department for the Metropolitan Transit Authority/Capital Construction (MTA/CC) East Side Access Project. Responsible for developing and managing Project Controls coordination, reported and identified cost trends. Additional duties included cost forecasting, change management, quantity tracking, cash flows, and analysis. Prepared Monthly Project Financial Status Report for Management review.

- Effectively worked with Railroads to streamline invoice and budget management. Results; fewer exceptions.
- Integral team member for the Rev. 13 Rebaseline FA Forecast Estimate for Construction and Design from 2004 through completion of-the project (2012).
- Assumed duty of Director of Force Account Construction Manager in his absence. [2003-2005]
- Kiewit/FCI/Manson, Skyway project, Oakland, California. Business Manager. Managed Community and Client relations. Established Contract Administration procedures for the SF-O Bay Bridge Skyway Project. Reviewed and approved all budgets, working drawings, submittals and requests for information (RFI) to and from CalTrans, the client, in order to be in compliance with contract specifications. Trained and supervised project staff on all communications with the client, contractors and suppliers.
- Managed and coordinated monthly Joint Venture Meetings and updated managing directors of Project Status.
- Researched and Negotiated Contract with CEO of Integral Vision Corporation within budget.
- Formatted design, integrated, performed company-wide demos and trained staff on Database system.

E-Logic Corporation, Marina Del Rey, California:
Marketing Specialist. Researched and created a fist time record of historical, general and technological content for website re-launch, contract proposals, sales literature and brochures for new clients. Produced daily and weekly Quality Assurance Reports for Business Development and Project Management for the CEO. Formed Competitive Analysis for the company and Finance Chanel clients. Assisted CEO and VP Business Development with contract formation, execution, and maintained national and international client relations.

- Developed all Press Releases, Presentations and maintained community relations.
- Created content and design for advertisements and website re-launch on schedule and within budget.
- Maintained superior client satisfaction by providing open lines of communication.

Aaron Griffith Casting, Los Angeles, California:
Casting Agent. Cast for Feature and Independent Films. Script analysis, composed breakdowns and critiques. Coordinated picture/resume/demo tape submittals for audition selections. Reviewed pitches from agents and talent managers. Researched actors, films, and television programs for projects or talent selection.

- Scheduled casting auditions for film projects.
- Read with actors, developed and formatted audition videotapes for Producer/Director review.
- Managed SAG requirements for cast selections for Production Companies.
- Negotiated contracts with actors' Agents/Managers.

Murali Puthiyarambath

Scheduler

Firm: JCMS, Inc.

Education

MBA, Marshall School of Business, USC, Los Angeles, 2002

B.S. Civil Engineering, MREC, India, 1987

Professional Registrations

Primavera Certified P6 Trainer, August 2008;

Project Risk Management in Pert master, December 2009

Employment History

2005- 2009: JCMS, Inc., Mercerville, NJ

2002-2005: Integrated Construction Enterprise, NJ

2001-2002: Hadi Haider & Bros. Co, Saudi Arabia

1997-2001: RPG Transmission Limited, Bangladesh

1992-1996: RPG Transmission Limited, Bangkok

1991-1992: ABB SAE (India) Limited

1990-1991: Consulting Engineering Services, New Delhi, India

Mr. Puthiyarambath is an engineering and management professional with over 19 years experience on diverse construction projects including mass transit, commercial, industrial institutional buildings, and defense department projects. His responsibilities included project management, construction management, contract management, project planning, CPM scheduling, cost estimating, bidding, performance reporting, vendor negotiations and subcontracting.

Mr. Puthiyarambath is a Primavera Certified Trainer. He has developed detailed cost and resource loaded CPM schedules, monthly updates including critical path analysis, graphic charts and computer reports and narrative reports. He has also been responsible for reviewing and approving contractor prepared CPM schedules, incorporating changes and change orders, making logic changes and preparing Recovery Schedules. Mr. Puthiyarambath is an expert in the latest version of Primavera's scheduling software. Mr. Puthiyarambath is also proficient in using project management tools such as "Expedition" and "Prolog" Document Control software.

Port Authority of NY and NJ (PATH System) – Capital Program Management Services: The project consists of developing integrated resource loaded schedule and optimizing resource requirements for proposed $2.5B, 10 year capital program projects for PANYNJ's PATH (Port Authority Trans Hudson) Rail System. Mr. Puthiyarambath's responsibilities include preparation of questionnaire for interviews, understanding the scope, duration and resource requirements. Based on the data collected during the interview process, Mr. Puthiyarambath has developed resource loaded master capital program schedule incorporating logistical constraints and optimized resource requirement.

LIRR – Power & Track Project Control/ Scheduling Services for LIRR Force Account Projects, New York, NY: Mr. Puthiyarambath provided Project Control/CPM Scheduling services to the Engineering Department at Long Island Rail Road (LIRR) where he was responsible for power and track projects. His responsibilities included creating detailed resource loaded CPM schedules, updating of the schedules on a monthly basis and reporting the status of the projects with respect to time, resource and cost.

In addition to annual track program, he was a key team member in finalizing the 2009 Calendar Year track outage program, which involved several rounds of discussion, across LIRR departments – Engineering, CPM, Service Planning, Tracks, and vehicles, starting as early as March of current year. He also successfully implemented the first project migration from primavera P3 to P6 for LIRR (including both FA Management & CPM). His responsibilities also included liaison with 3rd Party vendors, contractors & sub- contrac-

tors, attending Progress Meetings and visiting project sites. Projects on which he provided project control/ scheduling services are the following:

- PNPG & PNPH: Demolition and reconstruction of 8 new traction power substations ($96M); PNT4: Annual track maintenance and upgrade program ($56M); PNPC: Removal and replacement of 15 –ve reactors, replacement of +ve & -ve cables, and installation of a new traction power substation ($30 M); and PNPU: Installation of a new signal motor generator ($18 M)
- NJ Transit - The Trans-Hudson Express Tunnel, NJ-NY: $ 8.7 B: The Trans-Hudson Express Tunnel is a railroad tunnel that will be built under the Hudson River, connecting New Jersey and New York. This project will include: 1. Two new tracks under the Hudson River and the New Jersey Palisades 2. A new six-track passenger station under 34th Street in New York connecting with the existing Pennsylvania Station 3. Track and systems improvements in New Jersey and 4. A rail storage yard in Kearny, NJ. Mr. Puthiyarambath is responsible for developing the Master Schedule for the construction phase of the project. This includes identifying the major elements of the project, developing a work breakdown structure (WBS) based on the understanding of the various bid packages, assessing priorities, dependencies and construction durations.
- NJ Transit – Hoboken Ferry Terminal, Hoboken, NJ: $ 125 M: The project objective is the restoration and adaptive reuse of the historic ferry concourse and adjacent rail terminal building. The renovations include reconstructing a portion of the building's substructure and superstructure, constructing a ferry service ticket office, restoring the building's roof, refurbishing the terminal's old clock tower, restoring the interior finishes of the ferry terminal area, and performing utility and marine work to support the new ferry operation. Mr. Puthiyarambath was responsible for reviewing the CPM Baseline Schedule and updates submitted by the contractor, verifying progress, analyzing the critical path, preparing reports summarizing the findings and providing recommendations. Mr. Puthiyarambath was also responsible for reviewing time-impact analysis (TIA) submitted by the contractor to justify time extension requests and make appropriate recommendations.
- NJ Transit – Morrisville Train Storage Yard, Morrisville, NJ: $ 95 M : The $100 Million Phase II work includes expansion of the Morrisville Yard to double train storage capacity, including additional electrified tracks to accommodate 120 rail cars, two elevated inspection tracks in a fully enclosed Service & Inspection (S&I) facility, a Wheel Truing Facility, and expansion of the Crew Quarter Building and employee parking area.As a Scheduling Consultant, Mr. Puthiyarambath was responsible for reviewing and analyzing contractor's CPM baseline schedule, monthly updates and comment on schedule integrity and progress. He was also responsible for reviewing and analyzing contractor's Time Impact analysis requesting time extension and making recommendations to the owner.
- NJ Transit - Market Street South Concourse Site Preparation/General contract, Newark, NJ: $ 6.5 M Site preparation; including fence, gates and turnstiles removal, light fixture relocations and temporary wood partitions, plumbing; including construction of new wash water line system, and foundations; including concrete foundation walls, masonry walls, concrete floors, metal doors and glass walls at Newark Penn station, located in Newark, NJ. Mr. Puthiyarambath reviewed contractor schedule, prepared master schedule and master schedule updates for streetscaping work.
- PSE&G – Essex –Kearny 138 kV Circuit: Project includes Installation of new 138Kv OH line between Essex & Kearny and associated 138 kV breakers & half bus at Kearny using breakers rated at 80 kA fault current. Replace breakers at Foundry Street & Essex County Resource Recovery substations to withstand 63 kA fault current. Mr. Puthiyarambath was responsible for developing detailed project schedule incorporating PSE&G's administrative Functions.

Sean C. Scott

Scheduler

Firm: AECOM

Education

BS, Information Technology (with honors), University of Phoenix, CA, 2006

Employment History

2008-present: AECOM, Construction Scheduler

2003-2005: Sunstone, Inc, San Diego, CA, Front Office Manager

2005-2008: Booz Allen Hamilton, San Diego, CA, Senior Consultant

Mr. Scott has a broad diversity of experience in managing large-scale project schedules, process improvement initiatives (including CMMI and government process certifications) and managing personnel in both government and private organizations. He has experience as a project scheduler, document control manager, and office engineer on transportation, energy, tunneling and environmental projects. Prior to joining AECOM, Mr. Scott scheduled such diverse projects such as Transformational Satellite Communication Systems for the Air Force and analyst for the High Assurance Internet Protocol Encryptor (HAIPE) for NSA. Mr. Scott has working knowledge using Primavera P3.1 and P6, Microsoft Project, and Primavera Contract Manager, in addition to several other types of project management databases.

NYCEDC, Yankee Stadium Redevelopment Program, New York City, NY: Scheduler for the program management service includes creating and updating a master schedule to coordinate the Yankee Stadium Redevelopment Program with other proposed and active projects within the area, which consists of the following elements: 1) construction of new Yankee Stadium; 2) Bronx Terminal Market Waterfront Park and Upland Work Projects; 3) Construction of three New Parking garages; 4) new MTA Train Station (Yankee Station) and pedestrian bridge; 5) Gateway Center at Bronx Terminal Market Retail Development; 6) NYSDOT Exterior Street Bridge Replacement; 7) Mullaly Park; and 8) River Avenue Improvement. All of the data in the schedule was gathered directly from project stakeholders, public agencies, the FEIS, utility companies, engineering judgment, and other fact finding efforts. The master schedule is used to identified potential conflicts between projects in the area, calculate "what-if" scenarios, subscribe mitigation measures, and to effectively present findings to the project stakeholders. Responsible for assisting with preparing the schedule narrative as a chapter of the project quarterly report. Any significant schedule variance that could impact the major project milestone dates is monitored and reported for mitigation in the quarterly report schedule. Responsible for updating the master schedule. Scheduled using Primavera P3.

NYSDOT, Alexander Hamilton Bridge and Highbridge Interchange Ramps Rehabilitation, NY: Scheduler on the $407 million project to rehabilitate the Alexander Hamilton Bridge, which carries the I-95 Cross Bronx Expressway over t he I-87 Major Deegan Expressway, the Harlem River, Harlem River Drive, the Metro-North Railroad, and Amsterdam Avenue in addition to the high level ramps that connect I-95 to I-87. The Alexander Hamilton Bridge carries approximately 175,000 vehicles per day, and the Major Deegan Expressway carries approximately 125,000 vehicles per day. The 555-foot main span of the Alexander Hamilton Bridge consists of two

parallel 135–foot high built-up plate steel arches. The remainder of the bridge includes 10 steel girder/concrete deck spans. The project includes replacement of the existing 10-span concrete box girder ramp TE bridge with a five-span steel box girder bridge using an extensive temporary shielding and support system. The project includes the rehabilitation of seven additional ramps at the Major Deegan/Cross Bronx interchange. Ramp construction includes extensive temporary bridges, ramps, and support structures. The project includes 15-phases of construction. The roadwork includes the installation of a precast jointed pavement system. Responsible for assisting with the review of the contractor's baseline schedule, schedule updates, and analysis of schedule issues. Scheduled using Web-based Primavera P6.

Confidential Client, Tunnel Drainage Collection System, NY: Scheduler for the $17 million construction of a tunnel drainage collection system in Upstate New York. Work included the excavation of a 22–foot diameter, 220–foot deep shaft and 1,500 feet of 10–foot high tunnels. The tunnel work consisted of three tunnels. All work was performed by drill and blast methods with rock bolting and shotcrete lining. The purpose of tunnels is to act as drainage for collection and treatment of contaminated groundwater. Responsibilities included assisting with the review of contractor schedule updates, preparing tables, and preparation of monthly schedule analysis reports and progress reports. Assisted with the review of the schedule update that contained a change order to add additional work to the project for a new phase of work. Scheduled using Primavera P3.

Metro Transit division of the Metropolitan Council, Central Corridor Light Rail Transit (CCLRT), Minneapolis/Saint Paul, MN: The project includes preliminary engineering, final design, and design services during construction for the nearly $1 billion Central Corridor Light Rail Transit (CCLRT) project to link the downtowns of Saint Paul and Minneapolis via a new 11-mile light rail transit corridor. Scheduler responsibilities included assisting with the review of preliminary construction scheduled for seven construction contracts: West Civil Construction, East Civil Construction, Washington Avenue Bridge over the Mississippi River, Project Wide Systems Contract, Maintenance Facility Contract, Early Utility Relocation Contract, and Early Traffic Improvements Contract. Review entailed analysis of design plans, review of schedules, and recommendations for improvements to the schedules. Scheduling was done in Primavera P6.

City of Fort Collins, Mason Corridor Bus Rapid Transit Project Management Services, Fort Collins, CO: Scheduler for the Mason Corridor, a 5-mile north-south byway within the city of Fort Collins that extends from Cherry Street on the north to south of Harmony Road. The corridor will include a new bicycle and pedestrian trail, as well as a bus rapid transit system in a fixed guideway for the majority of the corridor. This project is an FTA Small Starts Program. Responsibilities include assisting with the creation and updating of the overall program master schedule, development of design-build time determination schedule, and review of design-build project baseline schedule and updates. Scheduling was done using Primavera P6.

Northstar Corridor Development Agency, Northstar Corridor Rail Project, MN: Scheduler for the $290 million Northstar Corridor Rail Project final design and construction. The project involves the grant application, final design, and constriction of a New Starts commuter rail line serving Minneapolis and its suburbs. The project includes five new at-grade stations, a vertical circulation building to transfer from commuter rail to light rail, a new maintenance facility, expansion of the existing light rail service, procurement of new rolling stock, railroad force account work, and extensive bridge reconstruction to accommodate light rail service. Responsible for assisting with the review of contractor schedules updates for the light rail expansion project and commuter rail stations project. Responsibilities include assisting with analyses of schedule changes, critical path changes, schedule movement, and preparation of monthly reports and meeting agendas. Assisted with monthly master schedule updating and reporting. Scheduled using Primavera P6.

Sukhdev (Dave) Sharma

Cost Estimating

Firm: AECOM

Education

MS, Construction Management, Polytechnic University, NY, 1990

BS, Electrical Engineering, Institution of Engineers, Delhi, India, 1968

Employment History

2007-present: AECOM, Estimator

2004-2007: New York City Transit, Chief Estimator – Cost Estimating and Cost Control

1994-2004: New York City Transit, Manager – Cost Estimating and Cost Control

1988-1994: New York City Transit, Electrical, Communications and Signals Estimating Manager

1985-1988: New York Power Authority, Production Engineer/ Electrical Engineer

1982-1985: Power and Control Systems Inc. Long Island, NY, Estimator

1963-1982: Delhi Electric Supply, Assistant Electrical Engineer

Mr. Sharma has extensive and versatile engineering experience in project management, construction management, cost estimating, and cost control for transit systems, electric utilities, pump stations, fan plants, and manufacturing industry. He has proven ability to perform complex tasks, and to coordinate with management, consultants, vendors, and contractors.

New York City Transit, Chief Estimator – Cost Estimating and Cost Control: Managed estimating and cost control sub-division in the MTA Capital Project Management. Responsible for reviewing all project estimates for quality and completeness, provided support to the engineering departments. Supervised five (5) managers and thirty (30) professional estimators. Projects included station rehabilitation, pump rooms, fan plants, maintenance shops, railroad yard rehabilitation, electrical power, communication systems, traction power substations and signals systems. Managed engineering services contracts to supplement in-house to meet the needs during emergency.

New York City Transit, Manager – Cost Estimating and Cost Control: Managed the quantity, quality and timeliness in preparing capital cost estimates during various design phases. Prepared bid cost estimates for electric, traction power substations, solar power systems, new technologies, communications and signal systems. Prepared estimates ranging from $1 Million to $ 250 Million. Communication systems included railway signal systems (conventional/communication based), traction power control, SCADA systems, security, fiber optic networks, public address systems, customer information, radio communications, fire alarm, data systems, telephone and building management systems. Supervised and prepared estimates for additional work orders during construction phase. Provided estimating and cost support to projects during construction phase. Developing scope, preparing and negotiating change order estimates. Prepared conceptual estimates for long range capital program plans 2000-2004 and 2005-2009. Prepared order of magnitude estimates for various improvements recommended by operations planning and RTO.

New York City Transit, Electrical, Communications and Signals Estimating Manager: Prepared construction cost estimates for power, signals and communication projects. Provided bid analysis, reviewed detailed cost breakdown and attended qualification hearings. Prepared and negotiated additional work order estimates during construction phase. Evaluated claims submitted by contractors and coordinated with law department regarding finalization and resolution. Prepared conceptual/budget estimates for long range capital program plans 1992 -1996 and revised budgets for 1993 -1996 capital program. Reviewed capital plans with management/engineering and revised capital plans.

Sukhdev (Dave) Sharma continued

New York Power Authority, Production Engineer/ Electrical Engineer: Administered procurement contracts for equipment for 345 kV Transmission Line project. Factory inspection during fabrication, reviewed testing procedures, arranging deliveries and storage of material at job sites was the major function. Processed partial payments.

Power and Control Systems Inc. Long Island, NY, Estimator: Quantity take off, material/labor pricing for all electrical systems pertaining to power plants, utility and industrial customers. Reviewed construction drawings for substation work in Saudi Arabia. Prepared bills of material purchased equipment and arranged payments from sponsors.

Delhi Electric Supply, Assistant Electrical Engineer: Worked as Assistant Electrical Engineer/Field Inspector for c onstruction department of Delhi Electric Supply Undertaking in India. Work included construction of substations, transmission lines and distribution mains. Coordinated work with vendors and contractors. Monitored cost and schedule processed change orders and approved partial payments. Submitted monthly progress reports for status of projects.

Ravindran Arumugam

Cost Engineer

Firm: JCMS, Inc.

Education

BS, Civil Engineering, P. S. G. College of Technology, Madras University, India, 1984

Employment History

2003-present: JCMS, Inc., Mercerville, NJ, Cost Engineer

2002-2003, Shiva Systems

1989-200: Leading Engineering Firm, India

Mr. Arumugam has over twenty (20) years experience in the field of cost estimating, project controls and construction management. He has served in various capacities such as Cost Estimator, Field / Site Engineer and Asst. Project Manager. He has been involved in a variety of projects that include infrastructure, industrial, institutional and commercial projects. Mr. Arumugam is very proficient in the field of cost estimating. During the design phase of projects, Mr. Arumugam has developed cost estimates (conceptual and final cost estimates) including quantity take-offs and costing, performed constructability review and provided construction phasing services. He has a keen sense of labor productivity rates, material pricing, bidding climate, resource availability (manpower and equipment) and their impact on construction time and cost. Mr. Arumugam also has considerable experience in estimating change orders resulting from design modifications and changed site conditions. He has provided Change Order Estimating services on major transit projects.

Mr. Arumugam's experience as a Cost Estimator is reinforced by his considerable field experience having served as Field Engineer and Assistant Project manager. He has been responsible for management of construction field office including subcontract negotiations, coordinating material purchases and expediting deliveries, directing and allocating a team of site foreman, trades persons, performing quantity estimates for the purpose of estimating work completed, assisting the project manager with job costing, etc.

NJ Transit – The Lower Hack Under grade Bridge Rehabilitation, NJ: The project is located on the Morristown Line over Hackensack River in Jersey City, Hudson County, New Jersey. The work consists of Structural Steel Repairs, replacement of Walkways and Ladders, Machinery House/Operator House rehabilitation, and Inspection and Machine work of the counterweight Sheaves of Lower Hack Bridge. Mr. Arumugam assumed the responsibility of Assistant Resident Engineer following the assignment of the existing R.E. to another project. His duties include project coordination, document control, meetings and correspondences, inspection of work to ensure conformance to project specifications, preparing change order estimates and processing change orders, payment certifications, etc.

MTA – East Side Access, New York, NY: The $5 billion East Side Access (ESA) program is one of the largest construction efforts ever undertaken by New York's Metropolitan Transportation Authority (MTA). Elements include more than 26,000 linear feet of new hard rock, soft-ground, and reconstructed tunnels; major reconfiguration of the lower level of GCT; and new track work, station, and yards. Mr. Arumugam, as a part of constructability review team is responsible for reviewing project's cost estimates. He is presently working on CQ031 Queens Bored Tunnels and Underground Structures

and CM013 Ventilation Building at 50th street which involves critical site considerations due to its location.

Miami-Dade Transit – Metrorail Extension, Miami, FL: The North corridor Metrorail Extension is an elevated 9.2 mile double-track, heavy-rail extension of the Miami-Dade Metrorail system. This is a New Starts involving design, procurement and construction. Scope includes construction of elevated concrete structures (pre-stressed, pre-cast and regular cast in-situ); tracks; traction power; train controls and communication; new vehicle procurement; seven new stations; and associated site developments including demolitions, utility relocation, utility services and parking lots. Mr. Arumugam was responsible for review, analysis and comments on grantee's cost estimates; which involved independently verifying major cost components in conformance with PMOP Operating Guidance #33. The scope of work included – stratification of cost items, mechanical check of estimate, comparison of cost to industry standards, correspondence with scope review, evaluation of contract package elements, and review of GC cost and cost escalation factors.

SEPTA – Market Street Elevated Reconstruction Project, Philadelphia: The project involves the staged replacement of the Market Street Elevated system which is approximately 11,000 feet long and the replacement of six stations located at 46th Street, 52nd Street, 56th Street, 60th Street, 63rd Street, and Millbourne. This complete replacement has to be carried out while keeping the system open to traffic .Mr. Arumugam is responsible for preparing numerous change order estimates for the Stations and Guideway contract packages due to multiple design modifications. The change order estimates are for changes due to foundation redesign, span emergency retrofit, trumpet bearing problems, additional shoring towers, canopy roof sub decking, plinth redesign etc.

SEPTA - Norristown Transportation Center Intermodal Parking Facility: The new Intermodal Facility includes a multi-deck parking garage for 540 cars and an intercity bus terminal. The project will provide new intermodal connections between SEPTA's suburban rail lines and bus routes, while adding greatly to the supply of convenient parking for the Transportation Center. Mr. Arumugam was responsible for preparing Cost Estimates for the multi-deck parking garage and bus terminal at 50% & 100% design phases. He also developed a pre-bid construction schedule for the project.

New Jersey Transit – Morrisville Yard Improvements Phase – 2: The project involved the construction of a new train washer building, yard facilities, services and inspection building and a wheel truing facility. Mr. Arumugam was responsible for preparing change order estimates for the Morrisville Yard Improvement project Phase 2 contract due to design modifications and changed site conditions.

SDP - G W Carver High School & Elementary School, PA: This project involved additions and extensive renovation to existing facilities including HVAC, plumbing, fire protection, electrical system, data communication and ACM abatement under Capital Improvement Program initiated by the School District of Philadelphia. The project involved alteration of existing school (124,381 SF) and addition of new gymnasium & kitchen (35,000 SF). He was responsible for developing cost estimates for the project.

Best Western Inn & Suites, Rahway, NJ: The project is new construction of a 5-story hotel building with 74 guest suites, common dining area, gymnasium, indoor swimming pool, parking lot etc. Mr. Arumugam was responsible for the management of the construction field office including subcontract negotiations, coordinating material purchases and expediting deliveries, directing and allocating a team of site foreman, trade persons , estimating numerous change orders, performing quantity estimates for the purpose of estimating work completed, assisting the project manager with job costing, etc.

NJSCC – Cumberland High School, Cumberland, NJ: The scope of work included school building renovation work in a built-up area of 250,000 SF. The work included architectural, mechanical and electrical renovation. Mr Arumugam was responsible for preparing conceptual and detailed cost estimates at various stages of design.

Trupti Kalbag

Cost Controls/Planning Studies

Firm: Radin Consulting, Inc.

Education

Masters in City Planning, Georgia Institute of Technology, 2002

Government Diploma in Architecture, Academy of Architecture, Mumbai, India, 1999

Employment History

2008–present: Project Controls Manager/Senior Planner, Radin Consulting, Inc. Newark, NJ

2006–2008: Senior Planner, BSC Group Boston, MA

2002–2006: Associate / Project Manager, Urban Collage, Inc. Atlanta, GA

Ms. Kalbag has 8 years of management experience in planning, project controls, design, and construction of transportation infrastructure.

Project Controls Manager: Ms. Kalbag manages and monitors the in-house budget and invoices for the majority of Radin Consulting, Inc. contracts. These contracts include THE CM Consortium contract on THE Tunnel Project, the Preliminary Engineering/Final Design contracts on the Portal Bridge Replacement Project, and the Northwest New Jersey Bus Study. Ms Kalbag uses detailed databases to track expenditures and recommends supporting recovery and mitigation efforts required to keep the project on schedule.

In addition, Ms. Kalbag reviews and monitors all project budgets, including tracking of actual expenditures on a monthly basis to determine validity, feasibility and cost effectiveness of projects. She also produces monthly progress reports and technical project reports to support federal, state or local agency requirements.

NJ TRANSIT/Amtrak's Portal Bridge Capacity Enhancement Project - Preliminary Engineering: Ms. Kalbag is part of the public outreach team for the Portal Bridge Capacity Enhancement Project on the Northeast Corridor Line.

NJ TRANSIT - Lower Hackensack Vertical Lift Bridge: Ms. Kalbag was the lead Environmental Planner for this project. She prepared the required NEPA documents for this project, including the GIS-based mapping for this project.

NJ TRANSIT Lehigh Line Improvements: Ms. Kalbag is the lead Environmental Planner for this project. She is preparing the required NEPA documents for this project and handles all the coordination with the environmental agencies.

Somerset County, NJ -Route 202 Corridor Study: Ms. Kalbag conducted an inventory of available mass transit options and prepared an analysis on what is feasible in this Route 202 congested corridor. As part of this study, Ms. Kalbag examined bus, train, BRT and other bicycle and pedestrian-friendly options.

NJ TRANSIT - Northwest New Jersey Bus: Ms. Kalbag is the lead planner managing the public outreach initiatives on this project. This project examines opportunities to improve bus service in northwest New Jersey. This study area includes northern Morris County, northwestern Passaic County, Warren and Sussex Counties. Ms. Kalbag, as the public outreach manager, is in close contact with Technical Advisory Committee and the Steering Committee members comprised from various state, county and municipal levels.

State Route 85: Ms. Kalbag held the position of Project Manager. In this role, Ms. Kalbag prepared a

Trupti Kalbag continued

master plan for 1.5 mile section of the State Route 85 commercial corridor in Marlborough, MA to plan for land use, transportation, pedestrian and open space improvements. In addition, she

Town of Clinton / Town of Westford, MA: Ms. Kalbag assisted on the transportation component of master plans for the Town of Clinton and Westford, creating a five-year implementation strategy for allocating municipal funds. Additionally, she worked on the natural resources and open space components for the Town of Westford master plan.

City of Quincy / Town of Southbridge, MA: Ms Kalbag contributed to the Urban Renewal Plans for downtown areas in the City of Quincy (adopted in 2007) and the Town of Southbridge (under review) for the Massachusetts Department of Housing and Community Development (DHCD).

City of New Bedford / City of Gardner, MA: Ms. Kalbag continued her role as senior Planner and prepared community-driven master plans for abandoned industrial sites in the City of New Bedford and Gardner, evaluating lad use, site contamination and transportation issues.

Perimeter Community Improvement Districts (PCIDs): Ms. Kalbag was assigned the role as Associate / Project Manager and oversaw the design and implementation of a $20 million public improvements program for this project. She was responsible for various project management tasks including, client interaction, community participation, and resource management.

In addition, Ms. Kalbag evaluated development feasibility for eight transportation corridors in South Atlanta and successfully managed three neighborhood plans in metro-Atlanta.

US-1 Corridor Plan, North Raleigh, NC: Ms. Kalbag managed the land use component of the 14-mile corridor and evaluated the creation of a limited-access multi-modal corridor along US-1 corridor.

Atlanta Beltline Redevelopment Plan: Ms. Kalbag managed the northeast quadrant of this project for creating a Tax Allocation District to fund $2.8 billion in transit and greenway improvements.

Architects Associated, Mumbai, India: Ms. Kalbag assisted in the design of a Mumbai housing complex that used cost-efficient and energy conscious systems.

Phoebe Fu

Database/LiveLink/GIS

Firm: AECOM

Education

MS, Computer Science, Fairleigh Dickinson University, Teaneck, NJ, 1998

BS, Electronic Engineering, National Taipei Institute of Technology, Taiwan, 1994

Employment History

2004-present: AECOM, IT Programmer

1998-2004: Interactive Edge NYC, NY, Software Developer & Database Developer

Ms. Fu has broad software engineering experience in construction, pharmaceutical, CPG (Consumer Packaged Goods) and manufacturing. She developed programs for both Web and Windows applications using Microsoft and Java technology. She has developed budget control applications for major projects such as the Second Avenue Subway project in New York. She has also performs budget control functions monitoring project budget, staffing, and scheduling.

Second Avenue Subway, MTA New York City Transit (NYCT), New York, New York: As software developer and junior budget control engineer, developed budget/project control Windows application (called EPC) to meet AECOM needs. EPC application works as workflow modeling based on operational needs. With EPC, project managers can easily set up budgets, import financial/cost data from AIMS/Oracle PPR, and analyze project status through various reports and graphic charts. This application is heavily customized to fit AECOM internal accounting structure, as well as the complex operations of engineering projects. Also created other small applications to support Metro financial accounting group to support project accountants monitoring invoicing/Open AR.

Los Angeles Metro Gold Line - Eastside Extension, Los Angeles County Metropolitan Transportation Authority, Los Angeles, California: Software developer for this $600.4 million design-build six-mile extension of the Los Angeles-to-Pasadena Metro Gold Line. Scheduled to open in 2009, the eastside extension light rail line will run from downtown's Union Station to East Los Angeles. The eastside extension will feature eight stations - two underground - and twin 1.8-mile-long tunnels under the Boyle Heights portion of the route. The tunnels will be dug using two earth pressure balance machines. The route will terminate at the junction of Atlantic and Pomona Boulevards.

As a Junior Budget Control Engineer: supported multiple projects on a monthly Basis. Updated actual cost and requested estimate-to-compete and percent completion information from project managers to generate project performance S-curve report to help monitor progress of work. Produced weekly actual labor FTE report to monitor budget spending, as well as part-time participation in Primavera scheduling work.

Johnson & Johnson Interaction Web Tool (Java Web Application): Designed and developed J&J web tool by using Java Servlets and web client side GUI running with JSP and HTML as presentation tier. With this web tool the administrator can manage user's account and update data on the server via the web, end users can upload files and send requests to the data vendor. Once the result data is ready to download, the server will send a notice email to the end user. Programmed the multithreaded daemon which has one thread to

extract user attachment files and compress them for user to download; another thread handles system file and database update. Designed the client-server communication flowchart. Implemented database architecture by constructing a logical and physical database model. Created an Oracle database (tables, triggers, views, and indices for performance). Maintained and analyzed monthly data with client DBA by extensive Oracle PL/SQL, stored procedure, and loaded data via SQL*Loader. Worked closely with client data analysts monthly to solve data issues by providing SQL statements. Provided the error data report by running SQL extensively. The client requests were handled using Servlets. Developed JSP as front-end presentation tier. Applied JavaMail API to send each end user notice email. Applied XML technology to retrieve and store information. Implement cookies technology to send security request to data provider, and applied password authentication security level.

Nestle Category Management in Power Point/ Excel: Provided reusable and dynamic data presentation, and helped the client to analyze category management by different charts and spreadsheets. Made presentation according the latest data in PowerPoint environment. Embedded VBA packages inside PowerPoint to provide convenience analysis tools without carrying another application. Programmed VBA behind Excel and transferred AC Nielsen data vendor format into the desired three dimensional data format. Provided GUI to allow users to select different data from Excel. Created intensive VBA behind PowerPoint to complete charts, spreadsheets, and generate analytic conclusions by users, providing formula and data in each slide.

Window Applications, Forest Laboratories, Inc (Pharmaceuticals Industry): Helped client to analyze the different budget plans via serial scenarios. Created am application that manipulated each scenario report by fitting with user-defined hierarchy, price, and rules; according user-input information calculated from the data provider (First Data Bank), that has pre-loading into MS-Access to generate scenarios. Designed database structure and communication with MS-Access via ODBC. Provided the ability to export each scenario into MS-PowerPoint as portable files, and the ability to view and print each scenario via a Visual Basic Database report. Used SQL with MS-Access and MS SQL Server to work with the local database.

ASP Web Application, Forest Laboratories, Inc (Pharmaceuticals Industry): Provided data analysis to extract partial First Data Bank data from MS SQL server into MS-Access for end users to download. The web application provides user interface to allow data analysis to create new products, define hierarchy, generate Varity set data by category, and load the small set data into MS Access for end user downloading. Created a database in MS SQL server with appropriate relationships and constraints. Developed a SQL server DTS package for loading monthly First Data Bank data into the SQL server. Maintained raw pharmaceutical data periodically by providing extensive SQL, stored procedure, and support necessary for administration purposes. Developed a windows application in Visual Basic 6.0 for the client DBA to extract data from standard First Data Bank format into clean flat-file. Designed and developed the web application via ASP, HTML, and Java Script. Developed upload component ActiveX for ASP/designed Java applets, and obtained data from ASP.

Ty S. Edwards

Database/LiveLink/GIS

Firm: AECOM

Education

AS, Architectural Design

Professional Associations

American Institute of Steel Construction (AISC)

Employment History

1995-present: AECOM, Designer

Mr. Edwards has substantial experience as a manager of transportation information systems. His experience includes managing the development of one of the largest transportation information systems in the world, where he worked directly with management teams to deliver state-of-the-art GIS programs capable of supporting operations and engineers. He has CADD management and administration, and railroad design experience. He has coordinated and managed a variety of civil, structural, and railroad information systems projects. He is also experienced at programming, and at enterprise data management systems. He has helped Amtrak in the development and management of its asset information center. Mr. Edwards has developed in-house and client solutions for various projects to increase productivity, accuracy, and consistency. He is the chief software developer for the firm's Mid-Atlantic division where he is responsible for the development of software/databases for the structural, transit, and civil disciplines.

He managed subcontractors to deliver successful data collection efforts; managed and programmed all aspects of fully integrated systems; managed a staff of GIS data processers to collect over 15,000 miles of railroad infrastructure assets; and developed database models to support fixed infrastructure asset management databases.

He is knowledgeable in Microsoft Visual Studio 2008, including .net, Visual Basic, C++, C# and J#. Mr. Edwards has extensive web development experience, including JavaScript, vbscript, asp and .net technologies. He is experienced in Microsoft Sequel Server and Oracle enterprise database management systems, including design and development of corporate-wide implementations. He has implemented systems utilizing ISO-9001 standards for development and testing.

Rail Mapping, Video and Geographical Information System, NJ TRANSIT, NJ: As project manager, responsibilities included managing day-to-day efforts to implement system-wide applications; collecting information for a detailed geographical information database; a linear referencing component for track chart schematic displays; and visual imaging to provide NJ TRANSIT with a training simulation, incident response, and overall engineering information applications. This project required coordination of software development, aerial LiDAR surveying, GIS integration (GeoMedia), and video surveying. Provided project management in coordinating the subconsultant's deliverables to adhere to the specific requirements outlined in the overall project work plan. Worked extensively with NJ TRANSIT's GIS management team to deliver a user-friendly, customizable system capable of supporting the entire corporate railroad business plan.

Ty S. Edwards continued

General Geographic Information System Project (GGC), NJ TRANSIT, NJ: As project manager, responsible for managing day-to-day efforts to execute general GIS tasks related to database and application development for migrating data into NJ TRANSIT's existing geographic information systems. Completed an address geocoder for use in determining address locations based on NJ TRANSIT's current infrastructure database. Also developing a sign condition database utilizing the existing system to catalog all NJ TRANSIT signage.

Railroad Crossing Inventory Study (MRCIS), Mississippi Department of Transportation (MDOT), MI: As project engineer, responsible for development of the MRCMIS database of all public and private railroad/roadway crossings within the State of Mississippi. The database operates within a geographic information system utilized by the MDOT rails division engineer. The database includes all the fields in the Federal Railroad Administration (FRA) crossing inventory, plus 30 MDOT fields determined by the MDOT rails division engineer. The database is compatible with railroad company databases for the class I railroads within the state. Also responsible for developing the graphic user interface to facilitate entry, edit, and analysis of crossing data. This has been developed in a web environment utilizing existing technologies at MDOT and customized by the AECOM team.

Amtrak Extension of Staff AIC Processing Manager, National Railroad Passenger Corporation (Amtrak): Providing data structure development for migration to Amtrak's overall database systems. The data structures support track maintenance and engineering applications, including the Acela remote monitoring system (RMS, a GIS-based application for monitoring track performance related to ride quality conditions), communication and signaling maintenance, engineering applications, and overall work management and asset information applications. Developer of the data analysis tools used to integrate into the above systems. Managing efforts to provide Amtrak with a signaling and communication asset information database. This dataset will be used to provide the Amtrak C&S department with details on the locations of existing assets of sufficient detail to supplement the design of new facilities, evaluate breaking distances, enhance routing capabilities, and perform overall asset management in the form of a "trouble desk" application. Responsible for managing efforts to collect information for an asset inventory database for the asset information center, based on geographical coordinate systems. Supporting a team of CADD technicians using FLIP 7 (a tool developed for the FLI-MAP System to collect data, which includes training staff, organization of projects, verification of data structure and integrity, storage of data, and scheduling). Responsible for developing new techniques and training documentation, as well as suggesting other uses for the information, proposing solutions for other departments at Amtrak using this information, and suggested improvements to Flip 7. Responsible for developing several applications using the above data with AutoCAD 14, VBA, and Visual Basic.

Electronic Documentation Retrieval System, Maryland Aviation Association (MAA), MD: Provided programming and database development for a geographical web-based document retrieval system. The development included an open GIS data structure, and advanced querying capabilities providing users with a view of the documents to be retrieved.

Union Interlocking Improvements, Catenary Assembly Database, NJ TRANSIT, NJ: Developed programs and databases to manipulate assembly models of CADD parts and summarize a list of parts. Responsible for coordinating the detailing of transit drawings.

Market Street Elevated (MSE) Reconstruction, AutoCAD Management System, Southeastern Pennsylvania Transportation Authority (SEPTA), PA: Developed AutoCAD/MicroStation standards (included file names, blocks/cells, layers/levels, etc.). Coordinated the development of a routine to convert MicroStation drawing files into the MSE standard format. Developed a Lisp program to evaluate the compliance of files from other consultants. Developed a system to track drawings and references throughout the project using LISP programs and Access Basic.

Joshua A. Gillespie, LEED AP

Environmental Review

Firm: AECOM

Education

BS, Forest Biology & Environmental Science, State University of New York College of Environmental Science, 1995

Professional Registrations

LEED Accredited Professional: US

Professional Associations

U.S. Green Buildings Council

International Society of Arboriculture (ISA)

Employment History

2007-present: AECOM, Environmental Planning Manager

1999-2007: Parsons Brinckerhoff, Inc., Environmental Planner

Mr. Gillespie is an environmental planning manager with considerable experience in environmental assessment and compliance for a diverse range of projects, including highway/bridge, transit/rail, ports and harbors, and facilities development. He has been responsible for the preparation and management of environmental impact statements, environmental assessments and compliance documentation following the National Environmental Policy Act (NEPA), the Federal Highway Administration Environmental Impact Procedures (23CFR 771), the Federal Transit Administration, New Jersey Executive Order 215 process, the New York State Environmental Quality Review Act (SEQR), and the New York City Environmental Quality Review (CEQR). Mr. Gillespie has also managed the permitting process for natural resource projects, including wetlands, waterways, coastal zones, navigation issues, riparian land, and endangered species. Mr. Gillespie also leads asbestos and hazardous materials investigations, and soil and groundwater investigations with the firm's New York office.

Tappan Zee Bridge/I-287 Corridor Environmental Review, New York State Thruway Authority (NYSTA), Rockland and Westchester Counties, NY: Provided technical review for the environmental contract for the Tappan Zee Bridge/I-287 Corridor, a major transportation improvement study for the NYS Thruway Authority, NYSDOT, and MTA-Metro North. Responsible for the technical review of the draft chapters of the environmental impact statement for the project, and technical environmental studies (air and noise quality, ecology and permits, contamination screening, cultural resources, socioeconomics, and land use).

MTA Securities Project, New York City, NY: Prepared and negotiated NYSDEC and U.S. Army Corps wetland permitting, and the New York State and New York City Coastal Consistency for multiple projects concurrently.

Access to the Region's Core (ARC) Mass Transit Tunnel (formerly-Trans-Hudson Express Tunnel), NJ Transit, Newark, NJ: Developed permitting and New York City ULURP guidance for each contract of THE Tunnel project, a major transportation improvement project for NJ Transit. Responsible for the technical review of the overall environmental permitting compliance for the project.

Interchange 16W/Route 3 Ramps Improvements, New Jersey Turnpike Authority, Bergen County, NJ: Hazardous materials specialist for the environmental contract for the NJTA Interchange 16W/Route 3 ramp improvements, a highway improvement study for the NJTA. Responsible for the completion of the site investigation/remedial action selection report/remedial action work plan, and ensuring the hazardous materials are investigated and managed according to NJDEP requirements.

Joshua A. Gillespie, LEED AP continued

Interchange 6 to 9 Widening Program, New Jersey Turnpike Authority, Burlington County, NJ: Provided technical guidance for the environmental contract for the NJTA Interchange 6 to 9 improvements, a major transportation improvement study. The project involves the procurement of all environmental permits and approvals required for construction of the proposed highway expansion. Key project responsibilities included coordination with local, state, and federal agencies for the attainment of freshwater wetland permits, stream encroachment permits, preparation of a 100-acre wetland mitigation plan, and oversight.

Mainline Corridor Improvement Project, MTA Long Island Rail Road (LIRR), Nassau County, NY: Provided technical review and guidance for the environmental contract for the Mainline Corridor Improvement Project, a major transportation improvement study for the LIRR. Responsible for the technical review of the draft chapters of the environmental impact statement and technical studies for the project.

Bronx Approach to Whitestone Bridge Deck Replacement and Rehabilitation, Bronx, NY: Delineated wetland areas along the designated construction site for the bridge rehabilitation. Prepared EAF, wetland delineation report, and coordinated wetland permitting efforts with NYSDEC and the U.S. Army Corps of Engineers for the project.

No. 7 Subway Extension Final Design, Metropolitan Transportation Authority (MTA), New York City, NY: Environmental engineering manager for the final design of the No. 7 Subway Line Extension in West Midtown Manhattan. Managed environmental compliance for the project, asbestos and hazardous materials building inspections, soil and groundwater investigations, noise and vibration analyses, environmental remediation and abatement drawings, and environmental specifications. Prepared and coordinated management programs for historic buildings, archaeological resources, hazardous materials, spoil removal, soil, groundwater, and noise and vibration with various city agencies for the final design of the No. 7 extension and the bid documents.

No. 7 Subway Extension - Hudson Yards Rezoning and Development Program Generic Environmental Impact Statement (EIS), New York City, NY: Deputy project manager for an EIS that encompassed four major projects: No. 7 subway extension for the MTA-NYCT; Hudson Yards rezoning and development program for the City of New York, City Planning Commission; Jacob K. Javits Convention Center expansion for the Convention Center Development Corporation; and the New York Sports and Convention Center for the New York Jets. Coordinated production and client review of all chapters for the draft and final EIS, authored several EIS chapters, coordinated efforts with involved environmental agencies, legal counsel review and multiple litigation efforts. Also developed and coordinated public presentations and hearings, presentations to city and state agencies, environmental field investigations, environmental permitting for the No. 7 subway extension, and other environmental compliance efforts associated with the project.

New Croton Aqueduct Rehabilitation, Bronx and Manhattan, NY: supervised the assessment and identification of trees, vegetation, streams, wildlife, and other sensitive natural resources for the inspection and rehabilitation of the New York City Department of Environmental Protection New Croton Aqueduct, a major water supply tunnel for New York City. Delineated streams and wetland areas for several shaft locations along the aqueduct. Prepared the wetland delineation report and identified permitting requirements. Prepared the environmental assessment form/statement for the project.

Brewster North Station Park and Ride Expansion Site, Harriman, NY: Performed wetland delineation of the proposed expansion area and prepared the wetland delineation report. Prepared an NYSDEC freshwater wetland permit for the construction activities related to the parking expansion area.

Mark E. Gander, AICP

ROW/Property Acquisition/TOD

Firm: AECOM

Education

MA, Urban Planning, UCLA, 1990

BA, Politics and Economics, University of California at Santa Cruz, 1985

PhD program studies, Political Economy, New School, NY, 1986-88

Professional Registrations

AICP: US, 1996, Registration No.: [redacted]

Professional Associations

American Planning Association

Urban Land Institute (ULI)

American Public Transportation Association (APTA)

National Association of Environmental Professionals

Artspace, Board of Directors (1997-2000)

Employment History

2002-present: AECOM, Senior Transportation Planner

1986-1988: The Ford Foundation, Urban Policy Associate

1989-1991: Stanley R. Hoffman Associates, Senior Analyst

1991-1995: Metro King Col./ PSRC, Economic Development Specialist/Senior Planner

1995-2002: Parsons Corporation, Principal Planner/ Senio Project Manager

Mr. Gander is a principal planner/project manager with over 20 years of interdisciplinary experience in a range of multi-modal transport and land development projects. Mr. Gander's experience covers all facets of a project from concept definition and feasibility planning to final design, construction, procurement and negotiation. Mark has expertise in real estate economics and property acquisition, the preparation and integration of environmental investigations/analysis, urban design, entitlement and regulatory affairs; and land use and intermodal transportation elements to help enhance, sustain and rejuvenate communities; and optimize real estate development at transportation facilities. He has managed teams and led projects in the Project Development Process and through FTA-sponsored projects.

Senior Planner, I-287 Corridor / Tappan Zee Bridge Environmental Review, NYSDOT, NY State Thruway Authority (NYSTA)/Metro-North Railroad (MNR), Westchester and Rockland Counties, NY: Senior professional responsible for technical review of land use, socio-economic and mass transit elements of the NEPA EIS/SEQA as part of AECOM's program management role for the multi-billion dollar bridge and mass transit project. Additionally, prepared an assessment of land use//transportation integration strategies and TOD opportunities along the 50-mile multi-modal corridor.

Task Lead, Second Avenue Subway Project, New York City Transit/Metropolitan Transportation Authority: Senior team member assigned to formulate and test funding/financing mechanisms and define strategy options for real estate acquisition and economic development; examined TOD/joint development opportunities for implementation of a new subway rail system in Manhattan. AECOM Transportation is providing management, engineering, and environmental support for the construction of the 8.5 mile new subway line with 16 stations.

Task Lead, Chicago Transit Authority (CTA) Circle Line Alternatives Analysis (AA), Chicago, Illinois: Senior member for the proposed CTA Circle Line project (26 square mile study area). Developed the purpose/need report, contributed to the analyses of commuter rail and bus service operations, contributed to the alternatives analysis screening process in accord with FTA Alternative Analysis requirements.

Planning Manager, Hoboken Terminal Development, Master Plan, New Jersey: Supported the LCOR development team on a large-scale transit-oriented development project at the 65-acre Hoboken Intermodal Terminal and Yard complex located at the Hudson River waterfront. Mr. Gander's roles included optimizing the site's potential for adaptive reuse and improved multi-modal transportation connections; transit-oriented development/joint development; inter-modal and pedestrian studies (using Legion model) and design modifications of bus plaza; formu-

lating strategies to reactivate the historic terminal; and providing design and programmatic strategies to enhance the NJ TRANSIT operational efficiency between rail, light rail, bus, PATH and ferry services.

Program Manager, Access to the Region's Core, Trans-Hudson Express (THE) Mass Transit Tunnel Project, Preliminary Engineering and Final Design, Metro New Jersey to Manhattan, New York City: Managed the real estate program for THE Partnership tri-venture in coordination with NJ TRANSIT and Port Authority of NY & NJ. Responsibilities included staff and contract management; interface management of design and acquisition of right-of-way/real estate; real estate advisory services; joint development and strategy formulation; acquisition support and oversight of right-of-way mapping; economics and right-of-way support to the CEQR/NEPA EIS documentation; prepared post-FEIS environmental analysis for NYC DCP/CEQR and FTA requirements; defined funding and acquisition strategies; prepared the project's NYC Uniform Land Use Application (ULURP) application; prepared highest-and-best use studies; analyzed air rights and overbuild real estate development potential; drafted the midtown Manhattan West 34th St. deed agreement and covenant; managed environmental studies and the appraisal of 500 parcels in NJ and Manhattan. Oversaw web-based system of title certification and managed property due diligence needed for acquisition; prepared the real estate cost budget, project procurement, acquisition/property management schedule, and the Real Estate Acquisition Management Plan (RAMP) – approved by FTA. The eight mile $8.9B commuter rail project will feature two new tunnels under the Hudson River between midtown Manhattan and New Jersey Meadowlands, track expansion, maintenance yard, station cavern, and several new entrances along at 34th Street to double capacity at NY Penn Station in midtown Manhattan. Construction is expected to be completed by 2017.

Environmental Oversight, U.S. DOT, Federal Transit Administration (FTA), Lower Manhattan Recovery Office, New York: Technical review, environmental oversight, and strategic policy guidance to Federal Transit Administration HQ and FTA Region 2 on grantees' project delivery, risk management, NEPA, and state/city environmental documentation of $4.5 billion in mass transit transportation and infrastructure recovery projects. New York City MTA and PANYNJ agency and stakeholder coordination was conducted.

Deputy Manager, Hiawatha Light Rail Transit Corridor Market Study, City of Minneapolis/Met Council, Minneapolis, MN: Senior professional that evaluated real estate and land development conditions and opportunities for TOD along the full-stretch of the nine-station, 12-mile LRT Hiawatha line. Led the traffic and pedestrian transportation evaluation, socio-economic, and the real estate economics and development tasks of the overall study. Prepared land use implementation and zoning strategy approach with a sample TOD Overlay District. Presented the long-range master plan and technical information to community groups and elected officials.

Task Lead, Hiawatha Corridor Light Rail Transit, Minnesota Department of Transportation / Metro Transit, Minneapolis, MN: Supported the design/build team as interface lead for design consistency/review coordination with station area plans (include TOD actions) and facilities, and environmental regulations and permits. The first LRT system in Minnesota opened in 2004 with service from downtown Minneapolis to the Minneapolis Airport, the Mall of America, and the City of Bloomington.

Regional Municipality of York (Ontario), VIVA Rapid Transit System: Principal planner on the York Consortium Program. Provided technical support to transit-oriented development program in a four-corridor rapid transit system in Toronto. Conceived as a land use / Smart Growth initiative, the system consists of high-end bus rapid transit, with key segments convertible to light rail if future conditions warrant. Additionally, prepared the bus network configuration report; co-led the preparation of the Business Plan; and supported the preparation of the TOD guidelines with land use standards and building guidelines.

Paul Thomas Pyle

Operations

Firm: AECOM

Education

BA, History and Political Science, Ohio Northern University

Professional Associations

Metropolitan Railway Club of New York, Member and past President

American Association of Railway Superintendents

Employment History

2008-present: AECOM

2000-2008: Amtrak, Superintendent of Operations and Commuter Services, New York, NY

1996-2000: Amtrak, General Manager, Metro liner Product Line, Philadelphia, PA

1990-1996: Amtrak, Superintendent of Operations, New York, NY

1986-1990: Amtrak, Assistant Superintendent Field Operations, NY, NY

1983-1986: Amtrak, Assistant TrainMaster II, TrainMaster I, Philadelphia, PA and NY, NY

1979-1983: Amtrak, Construction Manager, Track Laying System

1976–1979: Amtrak, Assistant Division Engineer, Boston, MA

1972–1976: Track Supervisor, Assistant Division Engineer Conrail & Penn Central

Mr. Pyle is a railroad professional with a 38+-year career with Amtrak, advancing from Track Supervisor to Superintendent of Operations and Commuter Services in New York. He has a thorough knowledge of railroad operations in the region, having maintained relationships with NJ TRANSIT, LIRR and Metro-North in his last position with Amtrak as Superintendent of Operations before retiring in 2008.

Superintendent of Operations and Commuter Services, New York, NY: This position is responsible for maintaining operational relationships with NJ TRANSIT, Long Island Rail Road and Metro-North. It also coordinates major engineering outages with operational requirements. When the General Superintendent is unavailable, this position stands in. Four direct report and 10 indirect reports.

General Manager, Metroliner Product Line, Philadelphia, PA: This position was responsible for all aspects of passenger and operational safety, budget and scheduling. Under Mr. Pyle's supervision, the Metroliner Product Line was able to attain two successive years of record breaking revenue and ridership. The Product Line receives formal recognition of these milestones from the Board of Directors.

Superintendent of Operations, New York, NY: This position was responsible for the operational aspects of the division from New Rochelle, New York to Harrisburg, Pennsylvania on the main line and Albany service on the Empire connection from New York to Spuyten Duyvil on Metro-North. Over the road train operations, Penn Station Central Control (PSCC), and Special Projects all fell under this position. Agreement Employees: 350; Non Agreement Employees: 15.

Assistant Superintendent Field Operations, New York, NY: This position was responsible for all train and engine service employees assigned to the division. Handling unusual occurrences, random drug and alcohol testing, budget compliance, engineer evaluations, and all aspects of operational rule compliance and safety were involved. Winner of President's Safety Award in 1989. Agreement Employees: 250; Non Agreement Employees: 10.

Assistant Train Master II, Train Master I, Philadelphia, PA and New York: This position has direct authority for all aspects of train operation and employee safety and rule compliance, on the above divisions. During this time, Mr. Pyle also became a Class I Locomotive Engineer between New York and Washington, and held this certification until his retirement.

Construction Manager, Track Laying System: Held field responsibility for all aspects of TLS operations, to include concrete tie and CWR installation, undercutting, surfacing and welding. Territory worked included

Paul Thomas Pyle continued

Sharon, Massachusetts to Washington, DC. Agreement Employees: 300; Non Agreement Employees: 10.

Assistant Division Engineer, Amtrak Boston Division: Responsible for the engineering functions from Springfield, Massachusetts to New Haven, CT, and New Haven, CT to Kingston, RI.

Track Supervisor, Assistant Division Engineer Conrail and Penn Central: Held Supervisor of track positions in Galion, Ohio, Washington, DC and Assistant Supervisor position in Charleston, West Virginia and Columbus, Ohio for Penn Central. Promoted to ADE with Conrail.

Jorge Reinosa

Configuration Management

Firm: PACO

Education

BS, Mechanical Engineering
Polytechnic University of
Puerto Rico, PR (2002)

Employment History

1998 – present: PACO Group, Inc., Contract Control System (ccsNet®) Manager

Mr. Reinosa has more than 12 years of experience in budget analysis, purchase orders/field purchase orders, cost tracking, invoicing, contract monitoring, bid preparation, estimating, document control, records management, change management, reporting, and staff supervision. He has extensive experience using a variety of document control and records management computer software systems including PACO Group's proprietary Contract Control System (ccsNet®), Primavera Contract Manager (Expedition), and ProjectSolve. Responsibilities include implementing ccsNet on large-scale, multi-contract, multi-phased, complex transit projects; recording and controlling all project related records and documents; implementing digital scanning; creating electronic records of documented correspondence, deliverables and other data received; processing and managing all request for change (RFC) and corresponding change notices (CN) and change orders (CO). Qualifications include training experience as trainer-the-trainer and classroom instruction in navigating, searching records, and data entry.

PACO Group, Inc. – Various Projects – New York, NY, Contract Control System (ccsNet®) Manager: Mr. Reinosa is responsible for implementing, maintaining, and leading in the continued development of ccsNet®, PACO's proprietary configuration management tool specialized in the recording and tracking of all contract related correspondence for multiple projects. Mr. Reinosa coordinates client's requests with developers, performs qualitative checks on versions before issuance to clients, and provides assistance to clients on program and procedures. In addition, Mr. Reinosa assisted in the development of the ccsNet Cost Control Module, a browser-based collaborative tool employed in controlling costs for capital expenditure projects, including budgetary information such as cost estimates at different percentage of design completion and tracking actual expenses (invoices) against budgetary baselines. He led brainstorming and instruction sessions with programmers, providing insight into processes and procedures, coordinating QA Team in performing qualitative checks on software versions before issuance to clients using tracking software.

National Infrastructure Development Company Limited (NIDCO) Government of the Republic of Trinidad & Tobago – National Highway Network Project, Phase I – Trinidad: Phase I encompasses 201.5 kilometers, broken into six packages over six years, includes highways, highway extensions, new freeways and a new causeway costing $2.44B. Responsibilities include auditing Project Procedures related to document control and processing; providing recommendations on those processes; developing process workflows; analyzing network and hardware specifications; implementing and integrating congruent systems; identifying contract deliverables;

developing reports and forms; developing training material; training project personnel.

New Jersey Transit (NJT) – Portal Bridge Capacity Enhancement, NJ: A $1.36B project spanning over 66 months to replace the 100 year old two track swing bridge located on the Hackensack River with a three-track fixed Network Tied Arch northern bridge and a two-track Network Tied Arch southern bridge straddling the existing structure. Responsibilities include auditing Project Procedures related to document control and processing; providing recommendations on those processes; developing process workflows; analyzing network and hardware specifications; implementing and integrating congruent systems; identifying contract deliverables; developing reports and forms; developing training material; training project personnel.

Florida Department of Transportation (FDOT) District Six – District Wide Intelligent Transportation System Operations Support Services – FL: A Consultant contract responsible for monitoring traffic conditions in Miami-Dade and Monroe Counties via Closed Circuit Television cameras and Vehicle Detection Systems, dissemination traveler information via Dynamic Message Signs, Dispatching Road Ranger Service Patrol Vehicles, Coordinating with Emergency Services, and Providing Information Technology support to the District. Responsibilities include auditing Project Procedures related to document control and processing; providing recommendations on those processes; developing process workflows; analyzing network and hardware specifications; developing reports and forms; developing training material; training project personnel.

Tecnica i Construccio de Catalunya, S.L. (TCC) – Catalonia, Spain: Private Project Management and Design Consulting Firm serving public agencies in the Catalonia region of Spain. Responsibilities included reviewing company Policies & Procedures, providing recommendations on processes, and developing process workflows; integration of ccsNet to those processes; analyzing network and hardware specifications; implementing and integrating congruent systems; developing reports and forms; training company personnel in Spanish.

Denver Regional Transit Agency – Denver Union Station Redevelopment – Denver, CO: A $300M project redeveloping the Denver Union Station as a central multi-modal transportation hub for RTD, incorporating commuter rail, light rail, buses, shuttles, and taxies, and facilitating the development of adjacent property for vertical development. Responsibilities include auditing Project Procedures related to document control and processing; providing recommendations on those processes; developing process workflows; analyzing network and hardware specifications; implementing and integrating congruent systems; identifying contract deliverables; developing reports and forms; developing training material; training project personnel.

Pima County Wastewater Management Department (WMD) – Capital Improvements Program Delivery Improvement/Enhancement – AZ: Project involved evaluating in anticipation of their projected 15 year $3B CIP Program WMD's current program and project delivery processes and make recommendations, identifying and assisting in implementing those improvements. Responsibilities included interviewing representatives of each division, providing online questionnaire, analyzing the capability and capacity of current processes, reviewing systems/applications/tools in place and their integration in processes, reviewing reports utilized in the process of CIP Planning and Delivery, presenting a findings report with gap analysis and proposed solutions.

Port of Barcelona – Port Expansion Program – Barcelona, Spain: A €204.3M program consisting of 19 projects related to the Port's expansion over a period of four years. Responsibilities include auditing Project Procedures related to document control and processing; providing recommendations on those processes; developing process workflows; analyzing network and hardware specifications; implementing and integrating congruent systems; identifying contract deliverables; developing reports and forms; developing training material; training project personnel in Spanish.

Robert L. Peskin, PhD

Asset Management

Firm: AECOM

Education

PhD, Transportation Engineering, Northwestern University, 1977

MS, Transportation Engineering, Northwestern University, 1975

BS, Civil Engineering, University of Maryland, 1973

Professional Registrations

EIT: MD

Professional Associations

American Society of Civil Engineers (ASCE)

Institute of Transportation Engineers (ITE)

Transportation Research Board (TRB), Chair - TRB Subcommittee on Transit Replacement Capital Planning and Programmming, TRB Subcommittee on Transit Management annd Performance (AP010), TRB Subcommittee on Commuter Rail Transportation (AP070), TRB Advisory Panel of Transit Cooperative Research Project T-4, “Guidelines for the Development of Public Transportation Facilities and Equipment Management System”, TRB Project J06/ Task 29, “Options for Financing Public Transportation Capital Projects”

Employment History

1977-present: AECOM, Senior Transportation Manager

Dr. Peskin is an internationally recognized consultant in transportation financing, planning, and management. He has been with AECOM throughout his entire career, providing his expertise in the service of the transit industry and a host of government agencies at the local, state, and federal level. He pioneered analytical methodologies in the areas of transportation financial planning, analysis of transportation infrastructure capital needs, and operating & maintenance cost modeling. His work focuses on the application of quantitative information to support transportation decision making. He works with public agency staff in integrating financial, capital, and operating data from all functional areas including planning, engineering, transportation, and maintenance. Dr. Peskin supports transportation agency executive staff and governing boards as they commit limited public resources to major capital investments and make difficult budgeting decisions.

Tappan Zee Bridge Financial Study and Demand Forecasting Advisory Services, New York State Department of Transportation/New York Thruway Authority/Metropolitan Transportation Authority, New York New York: Participated in structuring and undertaking a preliminary financial plan to fund the Tappan Zee Bridge Project, a regional initiative to improve mobility within the I-287 corridor, between Suffern and Port Chester, and to address structural issues related to the Tappan Zee Bridge. Examined funding and financing scenarios for a No Build Option, a Bridge Rehabilitation Only Option, as well as options to add lanes (including HOT lanes), and the option to add transit to the Bridge. Examined alternative public and private financing mechanisms.

Airport Access Program, Port Authority of New York and New Jersey, New York New York: Assisted senior Port Authority management in the development of an implementation plan for the proposed Program people mover from mid-town Manhattan to LaGuardia and Kennedy Airports. Undertook a comprehensive sources and uses of funds analysis, applying a spreadsheet model to determine the amount of bond and lease proceeds needed to fund the construction of this multi-billion dollar system and determine the extent to which annual debt service would be covered by revenues from the $3.00 passenger facilities charge levied on all enplaning passengers. Examined advantages of bond versus lease financing. Examine advantages of phase implementation as a way to manage debt service requirements. Conducted a detailed risk analysis applying the @RISK add-on program to Lotus 1-2-3. Addressed the implications of uncertainty in projections of inflation, interest rates on debt instruments and investment earnings, real construction and operation costs, total air passengers, and market share captured by the people mover. Supported management during the Value Planning process and in the identification of opportunities to attract private capital in design,

Robert L. Peskin, PhD continued

construction, and/or operation of the proposed system. Supported an in-house risk management team in addressing uncertainty in the financial plan for the project.

East Side Access Study Financial Analysis, New York Metropolitan Transportation Authority, New York New York: Managed the development of a financial analysis of the proposed connection of the Long Island Rail Road to Grand Central Terminal. Formulated a financial analysis which met the expectations of the FTA yet did not conflict with the New York Metropolitan Transportation Authority's current Five-Year Capital Program or the financially constrained 20-Year Capital Needs Plan. Examined the financial capacity of bridge and tunnel toll increases, LIRR fare increases, and cost savings resulting from rehabilitation of EMU car fleet. Applied a comprehensive financial analysis model to examine pay-as-you-go versus debt financed capital programs applying tax-exempt commercial paper, bonds with capitalized interest and deferred principal payment, and cross-border rail car leases. Undertook a Monte Carlo risk analysis to examine the implications of underlying uncertainty with respect to inflation, interest rates, capital costs, and ridership.

Silver Line Phase III, Massachusetts Bay Transportation Authority, Boston Massachusetts: Prepared the financial plan to support the New Starts application for the Silver Line Phase III project, which will provide an underground connection with subway interchanges between the existing Washington Street Bus Rapid Transit line and the BRT line to South Boston Pier and Logan Airport. Developed a cost allocation model to project the O&M costs of all MBTA services. Examined the O&M impacts of the level of infrastructure reinvestment for state-of-good-repair capital projects. Presented findings to the Authority's Chief Executive Officer and Chief Financial Officer and to the Massachusetts Secretary of Transportation, focusing on the need to secure additional dedicated funding to support both on-going operations and infrastructure renewal as well as new capacity development.

Newark-Elizabeth Rail Link Alternatives Analysis,NJ Transit, Newark New Jersey: Applied a state-of-the-art cash flow analysis spreadsheet. Integrated projections of expenses and revenues, both capital and operating. Examined alternative implementation schedules and financing mechanisms. Addressed opportunities to apply Urban Core funding provided under ISTEA. Computed the FTA-defined cost-effectiveness of each alternative.

Central Subway, San Francisco Municipal Transportation Agency, San Francisco California: Developed the financial plan to support the Federal Transit Administration New Starts application for the proposed Central Subway project. The Central Subway project is Phase 2 of the Third Street Light Rail Project, a major infrastructure project that restores modern light rail service to the eastern side of the city. The light rail line replaces the 15-Third Street motor coach line and will add 1.7 miles of light rail track north from the terminus of the Initial Operating Segment at Fourth and King Streets and extend into the heart of Chinatown. Undertook a comprehensive restructuring of the prior MTA financial plan and leveraged the new operating and maintenance cost model developed by AECOM in connection with the Transit Effectiveness Project, a parallel comprehensive transit service planning study. The financial plan applied the AECOM financial analysis model, which integrates projections of expenses and revenues, both capital and operating, in a framework that permits rapid examination of alternative project and service improvement schedules, funding, financing, and pricing. The analysis is undertaken with consideration of underlying uncertainty with respect to inflation, interest rates, project cost in base year dollars, caps on federal funding, growth in dedicated revenues, ridership, and other factors beyond the control of management. AECOM worked directly with the MTA Chief Financial Officer in the structuring of the analysis and the underlying assumptions. Prepared documentation consistent with FTA requirements and assisted in the integration of the financial plan with other reporting requirements.

Joseph Pizzurro, PE

Infrastructure - Bridges

Firm: AECOM

Education

BS, Civil Engineering, State University of New York, Buffalo, 1995

AAS, Architectural Technology, State University of New York, 1991

Professional Registrations

Professional Engiener:
NY, NJ and CT

Professional Associations

American Railway Engineering and Maintenance-of-Way Association (AREMA)

Heavy Movable Structures (HMS)

Employment History

1998-present: AECOM, Structural Project Manager/AVP

1995-1998: SYSTRA (formerly LS Transit Systems), Bloomfield, NJ, Design Engineer

Mr. Pizzurro has considerable structural engineering experience with in-depth knowledge of, and extensive experience in, rail-related design. He has played a key role on numerous rail rehabilitation projects for several transportation agencies, including projects such as the rehabilitation of Yonkers Station and the rehabilitation of five Mid-Harlem stations for MTA Metro-North Railroad, the design of the new Fairfield station for the Connecticut Department of Transportation, and the replacement of the Ambrose Brook Railroad Bridge for New Jersey Transit. He served as project engineer for the preliminary design for the new station at Yankee Stadium-East 153rd Street Station, MTA Metro-North Railroad, and finished up his duties on this project as resident engineer. Also, Mr. Pizzurro has additional experience on rail bridges and has worked on the in-depth inspection, analysis, feasibility study, interim design, and replacement design for the Saugatuck River Lift Bridge. His experience also includes the design of catenary poles, wires, and foundations; the structural design and inspection of concrete platforms, stairs, stair walls, elevator shafts, structural steel canopies, and tunnel sections; including foundations for all of these structures.

MTA MNR, Yankee Stadium-East 153rd Street Station, Bronx, NY: Project manager and resident engineer for the conceptual design, cost estimates, force account scope development, evaluation of alternatives, topographic and property surveys, track reconfiguration designs, and constructibility analysis, all to be done on an accelerated schedule. To accomplish these tasks, AECOM managed numerous concurrent activities and worked with the MNR project team to develop a 10 percent design report outlining the concepts for a new rail station on the Hudson Line near Yankee Stadium. Based on the conceptual design that was developed, a subsequent contract was awarded to AECOM for the preliminary design of the new Yankee Stadium-E.153rd Street Station, including the preparation of design-build procurement documents. AECOM was selected to provide construction supervision and inspection for this $60 million project.

ConnDOT, Saugatuck River Bridge Analysis and Design, Westport, CT: Structural and track engineer for the engineering feasibility, economic analysis study and interim design. Project manager for the replacement design of the Saugatuck River Bridge. Project work included an in-depth analysis and evaluation of the existing six-span bridge carrying four tracks on MNR's New Haven mainline. Responsibilities encompassed data collection and evaluation of the site, evaluation of existing as-built and rehabilitation drawings, structural analysis and load rating, preliminary structural engineering of bridge replacement alternatives, identifying railroad impacts to operations during construction, and preliminary design of horizontal and vertical track realignments to accommodate wider track spacing over the

Joseph Pizzurro, PE continued

bridge. Other duties included a 100 percent hands-on evaluation of the existing movable span, consisting of the superstructure and substructure. Providing final design services for the full replacement of this railroad movable bridge.

NYCEDC, Arthur Kill Lift Bridge, Staten Island, NY: Team leader for the in-depth inspection of the Arthur Kill Lift Bridge that carries the Staten Island Railroad (SIRR) between Staten Island, New York and Elizabeth, New Jersey. The vertical lift span has a length of 558 feet, center to center of bearings, and is listed in several references as the longest vertical lift span in the world. The span, which is a Pratt type riveted steel truss with a maximum depth of 70 feet, center-to-center of chords, is raised and lowered on 200-foot-high towers using counterweights weighing 1,000 tons each. The structure is a tower drive, vertical lift bridge carrying a single railroad track over the Arthur Kill waterway between Staten Island and New Jersey, with a vertical clearance of 31 feet when the vertical lift span is in the closed (lowered) position. The span is normally kept in the open (raised) position, which provides a vertical clearance of 135 feet above mean high water for marine traffic. The inspection involved a close-up hands-on inspection of all structural, architectural, mechanical, electrical, and signals components of the bridge both statically and with the bridge in operation where needed. A load rating was also performed on all live load-carrying members based on the Cooper E-80 loading. The purpose of this project was to inspect and evaluate the bridge so that the NYCEDC could determine its present condition, as well as the level of rehabilitation necessary to reactivate the bridge by the end of 2004. Ambrose Arch Bridge Replacement, NJ Transit, New Jersey: Project manager and engineer for the replacement of the Ambrose Arch Bridge. This assignment was part of the GEC/TOC general bridge and railway engineering program. Work involved performing preliminary and final design services for the replacement of Ambrose Arch Bridge. The bridge, which crosses over Ambrose Brook at milepost 28.77 on NJ Transit's Raritan Valley Line, is a six-span stone arch with concrete extensions at both the north and south sides. Responsibilities included preliminary design of the concrete arch bridge foundation and superstructure, including horizontal and vertical track design to accommodate track swings during construction phases.

MTA NYCT, 240th Street Yard Deck Rehabilitation, NY: Structural engineer for the 240th Street Yard deck rehabilitation project that included rehabilitation of the yard lead structure, yard storage structure, and replacement of the employee bridge connecting the yard structure to the main line structure adjacent to the 242nd Street Station. All rehabilitated structures are elevated approximately 16 feet above ground on steel and concrete structural supports. Design responsibilities included preparation of contract drawings and specifications to be performed by a job order construction contractor for the priority I repairs, replacement employee bridge, and new stairs from the yard lead structure to grade. Other duties included monitoring the priority I and II problem areas during the design effort up to the actual implementation of repairs.

Grand Central Terminal Upper Loop Track Rehabilitation, MNR, NY: Civil and track engineer for the Grand Central Terminal Upper Loop Track Rehabilitation Project that entailed the development of demolition and force account drawings and specifications for the embedded track replacement. Responsibilities included cost estimating, contractor and MNR force account work.

Westport Railroad Station Renovations, Town of Westport, Westport, CT: Project structural engineer for design services for renovations. Project work involved ADA improvements and enhancements to the Westport Station, including new glazed elevators, machine rooms and electrical rooms, platform extensions to the elevators, glass guiderail enclosures, handrails, tunnel extensions, a staircase between the tunnel and platform station, canopies to both the inbound and outbound platforms, new canopies for the elevators, stairs and platforms, and lighting for all areas covered by the canopies. Responsibilities included structural design of concrete stairs, stair walls, elevator shafts, structural steel canopies, and tunnel sections, including foundations for all of these structures.

Frederick Scarcello, PE

Infrastructure - Bridges

Firm: AECOM

Education

MBA, Business Administration, New York Institute of Technology, 1984

BS, Civil Engineering, City University of New York, 1978

Professional Registrations

PE: NJ, 2009, Registration No.: [redacted]

PE: NY, 1985, Registration No.: [redacted]

Professional Associations

American Society of Civil Engineers (ASCE)

Employment History

2000-present: AECOM, Structural Project Manager

1999-2000: Barbara Thayer, P.C. in New York, NY, Vice President of Engineering

1979-1999: Long Island Rail Road Company at Jamaica Station in Jamaica, NY, Engineer

Mr. Scarcello has extensive experience in civil and structural engineering. He has managed the design of bridges, stations, buildings, and other facilities for an array of major clients, including several components of New York's Metropolitan Transportation Authority (such as the Long Island Rail Road, New York City Transit, Metro-North Railroad, and the Bridges and Tunnels unit); the New York City Department of Transportation; the New York State Department of Transportation; the Connecticut Department of Transportation; the Passaic Valley Sewerage Commissioners; and the Port Authority of New York and New Jersey. Prior to joining the firm, Mr. Scarcello was manager of civil design and inspection for the Long Island Rail Road engineering department. He was responsible for budgeting and planning for future work; directing annual infrastructure inspections for railroad bridges, viaducts, commuter stations, buildings, and other structures; and for providing design services for new and rehabilitated railroad bridges and facilities.

MTA MNR, Yankee Stadium Train Station Design and Construction Services, Bronx, NY: Structural engineer for this design-build contract. Specific responsibilities included the design of footings and structures for the platforms, mezzanine, stairs, elevator towers, and pedestrian bridge. Also involved with construction support services.

Slattery Skanska USA, Dey Street Concourse Design-Build Project, Manhattan, NY: Lead civil engineer directing the design and CSS for utility relocation, building plumbing, and builder's pavement plans. Lead structural engineer during construction. The Metropolitan Transportation Authority and MTA New York City Transit are constructing a new Fulton Street Transit Center in the general vicinity of Fulton Street and Broadway, incorporating six existing Lower Manhattan subway stations. The $750 million project will improve access to, and connections between, 12 subway lines, and will link NYCT facilities with PATH service at the World Trade Center site. As part of this overall master project, AECOM was involved in a design-build project to perform final design and construction support services for the construction of an underground pedestrian concourse beneath Dey Street linking the future transit center to the 4/5 Line on Broadway, the R/W Line on Church Street, and the World Trade Center site.

MTA New York City Transit (NYCT), Structural Rehabilitation and Finishes at the R/W Cortlandt Street Station, NY: Lead structural engineer for the retrofitting of a lateral load bracing system for the recently completed Dey Street Concourse Structural Box to allow for the removal of a large gravity retaining wall between the Transit property and the Port Authority property at the World Trade Center site. Project scope also includes soil stabilization and crack repair to the station platform and walls.

Frederick Scarcello, PE continued

Port Authority of New York and New Jersey (PANY&NJ), Sutphin Boulevard Bridge, Jamaica, NY: Project manager for t his project that involved providing civil and structural analysis and design, including bridge load rating, track geometry, constructibility assessment, and cost estimates for lowering an existing LIRR freight track carried by the Sutphin Boulevard Bridge. The track lowering provides a 20-foot 6-inch vertical clearance necessary to accommodate the Authority's new AirTrain terminal.

PANY&NJ, Rail Link Construction between Staten Island Rail Road and the Chemical Coast Line, NY: Project manager for the inspection, survey, civil and structural design, environmental services, and construction phase services for a new 1-mile rail link between New York and New Jersey. The project will connect the Staten Island Railroad with the Chemical Coast Line, and permit freight rail service from Staten Island (where the PANYNJ has rehabilitated the Howland Hook Marine Terminal for container service).

NYSDOT, Route 9A Pedestrian Bridge, New York: Project manager for structural modeling and complete design of the east and west touchdown structures, the interconnecting bridge, an accessible ramp, lighting, decorative features, and site features for a pedestrian bridge for the Intrepid Museum.

MTA LIRR, Jamaica Station, Jamaica, NY: Manager responsible for civil design and inspection. Also responsible for a staff of 38 engineers, technicians, and support personnel:

- 2000-2004 Capital Program for the MTA Long Island Rail Road (LIRR): Project work included the inspection and development of bridge rehabilitation prioritization for the 2000-2004 Capital Program.
- Long Beach Station rehabilitation: Project work included directing the efforts of design and field staff for the reconstruction of a major passenger terminal located on a busy commuter line. The project involved the development of scope guidelines, estimates, site survey, track and yard reconfiguration, design, construction staging, and construction support services.
- Port Authority Light Rail Transit to JFK International Airport: Responsibilities included coordination of LIRR elements of connection at Jamaica station, including demolition and reconstruction of five commuter platforms, an overpass, track work, and utility and facility relocations. Intricate construction staging and planning was required in order to minimize inconvenience to passengers.
- Bridge replacement/rehabilitation program: Responsibilities included the direction of design and field staff for total replacement of bridges over the Patchogue River, Powell Creek, the Hog Island Channel, Raynor Avenue, and Hudson Road; and rehabilitation of bridges over Route 25 (Mattituck), Brown Creek, North Highway, and Montauk Highway (East Moriches). [1995-1997/ NA/NA]
- Engineering design and construction for the rehabilitation of the Atlantic Avenue Viaduct: Project work included preparation of contract documents for the staged removal and replacement of the bridge timber ties. The design work involved dapping diagrams and placement schedules for work to be performed around planned weekend outages.
- Bridge management program, systemwide: Responsibilities included the systemwide inspections of bridges, signal bridges, retaining walls, high tension towers, and culverts; and management of the LIRR bridge database and load ratings. Responsibilities also included overseeing various in-depth inspections, and rehabilitation and replacement of railroad structures on the LIRR system.
- Woodside Station reconstruction: Project manager for the concept formulation of a joint use facility for LIRR and TA while meeting the requirements stipulated by ADAPT. Conceptualized locating elevators to interconnect street, subway, and LIRR in such configuration as to be accessible to persons with disabilities.

Harris E. Sokoloff

Infrastructure - Civil/Drainage

Firm: AECOM

Education

BS, Civil Engineering, Syracuse University, 2007

Professional Registrations

EIT: NY, 2007

Professional Associations

American Society of Civil Engineers (ASCE), New York City Chapter

American Concrete Institute (ACI)

Employment History

2005-present: AECOM, Civil Engineer

Mr. Sokoloff is a civil engineer with two years of experience providing civil engineering services for various utility, highway, drainage, and structural projects. He has experience in the development of plans, utility relocations, specifications, and estimates for highway reconstruction; roadway alignment, drainage design, and quantity and cost estimating. Mr. Sokoloff is proficient in the use of several technical software including AutoCAD (Land Desktop and Civil 3D), MicroStation, MathCAD Microsoft Office Suite, Sketchup, as well as has experience in ArcGIS, StomCAD, and GPS equipment.

Access to the Region's Core (ARC) Mass Transit Tunnel (formerly Trans-Hudson Express Tunnel): Assisted with the development of contract bid documents for several contracts related to the multi billion dollar Trans-Hudson Express Tunnel between New York City and New Jersey. Assisted in the preparation of draft special provisions, and the review of general provisions for three large design-build tunnel contracts. The provisions addressed various items including contract administration, contract modifications and changes, procurement requirements, and payment and performance. Work required liaison and coordination with consultant and client staff.

Cross-Hudson Cable Design-Build Project: Assisted with the development plans for the New York City landing of a 500 MW cable connecting into 49th Street Substation at 49th Street. Responsible for identifying existing utilities and for planning utility relocations. Conducted numerous site visits to gather information on existing utilities and the storm drain system. Coordinated with various city and private utility companies to help gather further information and create combined drawings of existing utility layout.

Reconstruction of Times Square Shuttle Station: Assisted with the design of underground utilities and relocation of utilities during excavation of the cut and cover tunnels. This includes electrical duct banks, telephone and communication cable lines, gas, water, sewer and traffic signals. Helped prepare a Maintenance of Protection of Traffic (MPT) and site plan for various construction stages keeping a minimum of two-lane traffic on each direction at any given stage.

MTA MNR, Harmon Yard Shop Replacement Phase III, New York, NY: As Engineer, developed final design plans for the improvements of several maintenance areas and the renovation of deteriorated portions of the Harmon Yard facilities. Responsible for designing new site plan and grading profile that confirms with the proposed and existing track layout and elevation. Responsible for design of a 20 space parking lot. Designed site plans and drainage plans to improve maintenance operations and extend the useful life of the facilities. Other tasks included analyzing the existing storm drainage system and designing several drainage improvement options for the proposed system.

Harris E. Sokoloff continued

NYCDOT, Rehabilitation of the Westchester Avenue Bridge and Lowering of the Hutchinson River Parkway Below, Bronx, NY: As Design Engineer, developed preliminary and final design plans for the lowering of the Hutchinson River Parkway in the vicinity of a bridge that had low vertical clearance and resulted in occasional collisions with trucks. Assisted in developing 3D drawings of proposed designs for use in community board meetings. Responsible for maintaining contact with multiple agencies to insure proper communication. Duties also included assisting with developing typical sections, roadway plans, drainage plans, computing construction quantity and cost estimates and utility relocation plans. Coordinated with various city and private utility companies to help to identify exiting utility layouts.

NYSDOT, State Route 120 and I-684 at Exit 2, Town of North Castle, NY: As Engineer, developed civil plans and sections for the reconstruction and drainage improvements of a 3-mile section of Route 120 and a 4-mile section of I-684 at Exit 2. Primary tasked with identifying existing conflicting utility paths and guide rail placement and design. Assisted in the itemization of construction quantity and cost estimates.

Jet Blue Airways, Terminal 5 Airside and Landside Improvements at JFK Airport, New York, NY: As Engineer, performed hydraulic calculations of sanitary systems, as well designed exterior main pipe network. Tasked with insuring that proposed pipe network does not conflict with existing and proposed utility layout. Also designed vertical alignment of approach ramps to main terminal.

Verrazano Narrows Bridge – Two Way Tolling: Assisted with a feasibility Study to return the Verrazano Narrows Bridge to a two way tolling operation. Responsible for preliminary designs at a "bird eye view" level and then helping to develop the criteria for selecting the best options. Responsible for further developing the preferred options. Was in charge of coordinating data for multiple departments and sub consultants. Researched new tolling methods and existing "best practices."

Rendezvous Bay Resort, Anguilla, British Overseas Territory: As an engineer, helped develop the master site plan of a 180 plus villas, townhouses & building development. In charge of the design of the utility layout for the site which includes a Storm Drainage System consisting of gravity lines to include recycling of storm water for irrigation and recharge system; Sanitary sewer systems consisting of gravity systems and force main to waste water treatment plant; Domestic water and fire protection distribution system from reverse osmosis (RO) connection or storage point to 5 feet from the building lines; Natural gas and chilled water distribution system from centralized fuel oil tank and chiller plant respectively and layout of the electrical conduits supply and distribution lines from the power plant building to 5 feet of the building. Assisted with roadway design – horizontal and vertical alignments, profiles, roadway sections and layout; Parking areas; building dimensional control and layout; Grading plan with cut and fill calculations.

Wind field Energy Projects – for Noble Environmental Power: Assisted with the design of gravel roadways to the various locations of wind turbine towers throughout the farm land. Responsibilities included the design of typical roadway section, centerline geometry, horizontal and vertical alignments, profiles, culvert, erosion control measures, and typical details. Spent two months in the field at various sites gathering pertinent information for the project including, utility and wet land location as well as current field conditions. Met with utility companies, land owners and clients on an extensive basis.

Dormitory Authority of New York (DASNY), Harlem Hospital Building Demolition, New York, NY: As Design Engineer, helped prepare sets of contract drawings for the demolition of buildings at Harlem Hospital. Assisted with demolition site plans, civil plans and details. Began preliminary design of site grading and drainage of one of the demolished buildings.

Otto Yu

Infrastructure - Civil/Drainage

Firm: AECOM

Education

BS, Civil Engineering, Mapua Institute of Technology, Manila, Philippines, 1976

Employment History

2002-present: AECOM, Civil Project Engineer

1989-1995: CH2M Hill Lockwood Green, New York, NY, Senior Civil Engineer

1995-1999: Jacobs (formerly Sverdrup & Parcel), New York, NY, Senior Civil Engineer

1999-2002: STV, Inc., New York, NY, Supervising Civil Engineer

Mr. Yu is a civil project engineer and deputy project manager with extensive experience in the design of highway, railroad, airport, environmental, industrial, commercial, pharmaceutical, food and beverages industry, subdivision, and site development projects. His project experience includes work in the design of roadway, airport, and railroad tracks; and horizontal and vertical alignment, profile, and cross-section. He is skilled in the preparation of construction document plans, which includes the design of site layout, horizontal and vertical alignment, profiles, grading, drainage, storm and sanitary sewer system, water, gas, electric duct banks, and other utilities, and their relocation. He also designs the soil erosion/sedimentation control measures and site details. He is proficient in AutoCAD 2007 and 2008, Civil 3D, MicroStation V8, and CAD 2D and 3D versions. He has performed CAD file creation, and translation from MicroStation format to AutoCAD, and vice versa. He reviews standard specification and tailors them accordingly, and writes reports. He also supervises professional engineers and drafting staff in all aspects of CAD standards. Mr. Yu conducts a stormwater management seminar to train engineers in software programs (StormCAD and PondPack) related to hydraulics and hydrology. He also has extensive experience in specification writing, environmental impact statement documents, cost estimates, stormwater management calculations, and reports for small and large-scale projects. He interfaces with clients, sub-consultants, and township/county/state officials of various agencies for coordination and permitting. He also has served as a deputy project manager overseeing the job from conceptual to final phase, coordinating all discipline interfaces. Mr. Yu is the project engineer on a multi-discipline project that requires daily design progress, and supervises all aspects of the design.

Port Authority of New York and New Jersey (PANY&NJ), La Guardia Airport Subway Access Study, NY: The revised Grand Central Parkway alignment was developed in consultation with MTA NYC Transit. These alternatives are variations of the alternative NYCT-7, developed as part of the LASA study's draft EIS public scooping process. The two new alternatives are NYCT-7A: revised branch of the Astoria Line along the Grand Central Parkway median; and NYCT-7B: revised branch of the Astoria Line along southern side of Grand Central Parkway. Deputy project manager responsible for the supervision of the horizontal and vertical alignment for both schemes. Manage the project in all aspects (supervising meetings, coordination of all disciplines, tracking the project schedule and budget). Coordinated with sub-consultants for the construction reports and evaluation matrix, and with NYSDOT region 11 for the on-going and future projects that might impact the revised Grand Central Parkway Subway alignment alternatives.

Otto Yu continued

PANY&NJ, Newark International Airport, Central Taxi Stand Area Drainage/Stormwater Management, Newark, NJ: The taxi stand parking area's storm system is flawed and resulted in backflow of storm runoff that caused flooding at several locations. The purpose of the design was to correct these poorly drained areas and address the stormwater management issues on the site. The project consisted of a stage I report presenting the site investigations, recommendations, alternatives, and construction cost estimates to rehabilitate the storm drainage system and recommend stormwater management, particularly the water quality issues. The next stage was the development of final construction plans that included the title sheet, location plan and list of drawings, site removal and paving plan, grading and drainage plan, and site details. Traffic control measures were also taken into consideration. As the senior civil engineer, developed three construction stages and maintenance of traffic to minimize the impact to the taxi operations during the construction period.

PANY&NJ, JFK Air Rail Transit Consortium, NY: Supervising civil engineer in charge of the overall utility relocation packages, utility connection packages, and station site and grading drainage packages of the project. Responsibilities included detailed relocation and design of all site utilities, particularly sanitary, water, electrical conduit, thermal distribution system, chilled water, storm drainage, and gas. It also included the drainage design and calculations of the light rail system guideway columns from the central terminal area (CTA) to several stations along the entire line. Designed the station site layout plan and the grading and drainage plan, including storm and sanitary sewer system calculations for all of the stations and the CTA section of the project. Coordinated several contracts broken into numerous packages, and coordinated extensively with the contractor and the different disciplines for all of the packages prior to each submission. Responsibilities included the supervision of CADD personnel and production of the contract documents from pre-final stage to final document submission.

NJ Transit, Hudson Bergen Light Rail Transit (HBLRT) Major Operating System 3 (Proposal Phase), NJ: HBLRT MOS3 is a design-build project that entails the approximate 1-mile extension of the HBLRT. The extension will be from the current 22nd Street station to the proposed 8th Street terminal station, including a new station building, center island platform, and site plan with proposed parking lot. For this proposal effort, AECOM team responsibilities include advancing the NJT-issued 30 percent plans and design to a level of completeness that will provide the tri-venture contractors with enough information to prepare a competitive construction-cost bid for the project. Civil task leader responsible for the verification of roadway alignment, installation of new drainage structures, review of the utility relocation plans, and the latest requirements from NYDEP and other utility agencies for connection to their systems. Also responsible for verification of the retaining wall heights and possible reduction of the proposed retaining wall length to reduce construction cost.

MTA NYCT, Times Square Subway Reconstruction, NY: The rehabilitation of the Times Square subway complex required re-alignment of two tracks (1 and 3) and elimination track 4. To improve passenger access and circulation, track 1 was realigned creating a single, wide island platform between tracks 1 and 3 to accommodate the five-car trains. This was achieved by extending the platform approximately 250 feet to the east. New entrances along either side of Broadway were also proposed from the shuttle mezzanine floor. Civil task leader responsible for the design of underground utilities and relocation of utilities during excavation of the cut and cover tunnels, and coordination with utility agencies in New York City to develop design solutions that meet the respective agencies' requirements and result in timely approvals.

Anwar V. Syed

Infrastructure - Electrification

Firm: AECOM

Education

BS, Electrical Engineering, Osmania University - India, 1968

Professional Associations

MIET - UK

Employment History

2001-present: AECOM, Electrical Project Engineer

1998-2001: General Electric, Project Engineer

1994-1998: PACS Industries, Lead Engineer

1988-1992: LKB., Inc., Senior Engineer

1979-1988: Saudi Consolidated Electric Company

Mr. Syed is highly motivated, highly proficient in project execution of major international and domestic projects for utility, facilities, airports and other institutions with experience that includes electrical engineering and design of large power plants, 345/132/69/33KV substations, facilities, as well as controls systems design and development, testing, commissioning and procurement. He has achieved senior level in project engineering, construction management and dealing with domestic and international engineering companies and utilities.Mr. Syed is experienced as construction manager and is very efficient in dealing and resolving change order issues and punch list items, reviewing and commenting on shop drawings, preparation of construction documents, interdisciplinary coordination, supervising the commissioning and startup of various projects. He has extensive experience in nuclear and fossil power plants, HV/MV /LV power generation and distribution systems, control systems, communications, airfield lighting, Over/underground HV/LV/ power and communication duct banks and cables, PLCs, Fiber Optic network, emergency power generation and distribution, emergency DC power and UPS systems.

Metro-North Railroad Croton Harmon Yard Phase I Construction Management, NY: Lead Electrical engineer for the construction support of railroad yard and shop improvement. Responsible for review of high and low voltage electrical equipment shop drawings. Duties included resolution of technical issues, coordination with utility company and the contractor, field change orders, site quality control, factory witness testing at manufacturer's facility, commissioning and startup of various equipments.

Metro-North Railroad Harmon Yard Phase II Design, NY: Lead electrical engineer for the MV substation and yard power distribution system. Responsible for design and engineering of 15KV MNR Ossining Substation and reconfiguration of service feeders to various 15KV substations. Responsibilities included engineering on protective relays and circuit breaker controls, DC system, Mimic panel for remote control and SCADA system for remote monitoring. Responsibilities also included coordination with local utility for high-tension service requirements and implementation of utility's Standards and Regulations in the substation design.

JetBlue Airways – JFK Airport: Responsible for the engineering and design of a large (26 Aircraft bays) terminal building's electrical system with 5KV and 480V utility underground/overhead feeders and distribution system, Apron and taxiway lighting system, emergency power distribution and generators, MV substation, Low voltage distribution, approach lighting to terminal, fiber optic network etc.

Anwar V. Syed continued

City University of New York: Responsible for the design and engineering of replacement of distribution network with 15KV distribution for the entire university campus; responsibilities include design of new main, 15KV (20 MW) substation with six incoming utility circuits, isolation transformers and 15KV underground distribution, and double ended unit substations at each campus building including design of 480V power distribution for campus power. Responsibilities included coordination and design approvals with the local utility, supervision on cable/conduit layouts underground duct system, cable schedule etc.

York College of New York: Responsible for the engineering and design supervision on a 15KV substation, 15KV distribution and unit substation, and Upgrading of 480V system for various campus buildings.

Riker's Island Co-generation Power Plant: Lead engineer responsible for all aspects of engineering and design of a 2X 7.5 MW gas turbine power plant. Responsibilities included preparation of one line, three line and schematic diagram, specifications for power and auxiliary transformers, 27 KV and 5 KV switchgear, batteries chargers and LV switchboard/ MCCs. Responsibilities also included supervising power and control cable layouts, cable schedule etc., coordination with utility to review and implement their requirements. Responsibilities also included preparation of control schemes for data acquisition system, load shedding system, remote synchronizing system, transfer trip system etc.

Surveillance System, Aramco Oil Terminal, Ras Tanura, Saudi Arabia: Special assignment responsibility for designing,specifying, ordering, and witnessing pre-operational tests for the port radar system at the main oil terminal at Ras Tanura Saudi Arabia.

PACS Industries, Great Neck, NY: As project manager responsible for all engineering and design aspects of 132-kV outdoor/indoor substation including design of switch yard, protection system, DC control system, SCADA system, and grounding system etc. Coordinated and supervised all aspects of commissioning of 138KV circuit breakers, 15/138 KV transformers, 15 KV switchgear line up, DC system etc.

Anguila Resort Project: Lead project engineer, responsible for the design and engineering of electrical distribution for a resort complex consisting of 140 high end villas. 34.5 KV and 5 KV Outdoor/ Indoor substations, paralleling with the utility, integration of a 6 MW emergency power generator units and 5KV distribution to support eight double ended unit substations. Responsibilities included design of unit substations in underground vaults and selection of special submersible type equipment, design of SCADA system for central monitoring and control and low voltage distribution, MV and LV and control cable duct banks etc. As a team leader responsible for coordination with client, agencies and other engineering disciplines including the Anguilla utility. Duties also included preparation of all specifications for indoor/outdoor power transformers, outdoor/indoor MV switchgear, generator units, synchronizing system, batteries, and charger (including sizing calculations), control consoles, transfer switches, cables, conduits and commissioning system.

DASNY New York: Lead electrical engineer responsible for engineering and design of emergency generator units consisting of 3 units of 2000KW, 3 units of 800KW, one unit each of 350KW, & 80 KW diesel generators at various hospitals in New York.

In-City Power Generation Project, New York, NY: Lead electrical engineer for several sites of 47MW GE LM 6000 gas turbine power generating units, responsible for engineering and design supervision and installation/commissioning of gas turbine/generator units, their protection and control including power and control cable interconnection138 / 69 KV outdoor substations etc. These substations were designed for interconnection to the utility network and had several high voltage transformers, 138 and 69 KV dead tank circuit breakers, CCVTs, various types of isolating switches etc. Responsibilities included design of DC system, grounding, resolution of technical issues, contractor coordination, site quality control, commissioning, and startup.

Paul A. Roy, PE

Infrastructure - Tunnels

Firm: AECOM

Education

MS, Structural/Geotechnical Engineering, Northeastern University, Boston, MA, 1993
BS, Civil Engineering, Northeastern University, Boston, MA, 1988
AS, Engineering Technology, Wentworth Institute of Technology, Boston, MA, 1966

Professional Registrations

Professional Engineer:
NY, PA, MA and RI

Professional Associations

American Society of Civil Engineers (ASCE)
Boston Society of Civil Engineers (BSCE)
Society for Mining, Metallurgy, and Exploration (SME)

Employment History

1991-present: AECOM, Director of Tunneling and Underground Structures

1966-1968: Stone and Webster Engineering Corp., Boston, MA, Senior Structural Draftsman

1968-1973: Whitman and Ward, Consulting Engineers, Boston, MA, Structural Designer

1973-1988: Stone and Webster Engineering Corp., Boston, MA, Structural Engineer

1988-1991: SEA Consultants, Cambridge, MA, Senior Structural Engineer

Mr. Roy has extensive experience in structural and geotechnical engineering, and project management for tunnels, underground facilities, and other complex structures. His experience has included engineering and construction of transit, highway, utility, and water/sewer tunnels in Boston, New York City, Pittsburgh, Atlanta, Atlantic City, and, Puerto Rico. For six years, Mr. Roy managed the design of one of the most complex interchanges on the Boston Central Artery/Tunnel project. He met technical challenges with state-of-the- art, innovative solutions, including deep soil-cement mixing and tunnel jacking, while controlling the budget and schedule. The need to stabilize the deep excavation for the cut-and-cover tunnels into soft, thick layers of clay in and around Fort Point Channel demanded an innovative solution; hence, deep soil-cement mixing foundations. To successfully implement the design, he organized technology transfer meeting with engineers and contractors in Japan and Taiwan. Mr. Roy directed the technical team through the design using deep soil-cement mixing concepts, and developed design criteria and construction methods with emphasis on domestic experience. The innovations used on the project resulted in savings of more than $300 million over conventional methods, and a compression in the construction schedule of 18 months, without compromising quality. His experience also includes underpinning of transit tunnels in urban areas, compensation grouting, jet grouting, ground freezing, slurry wall and cofferdam design, seismic risk evaluation, and integration of fire and life safety requirements.

PANY&NJ, Vehicle Security Center, World Trade Center, New York, NY:

Chief structural/geotechnical engineer for the design of a three-story underground structure for screening all vehicles entering the WTC complex. Responsibilities included managing and technical direction of the project team providing engineering and design documents for the $600 million facility. Major elements in the design included resistance to explosive blasts that could cause disproportionate progressive collapse of the structure, creation of an independent “south bathtub” in the WTC complex using slurry wall/tie-back design, and structural steel and reinforced concrete design.

Slatterly Skanska USA, Dey Street Structural Box Concourse Design-Build Project, Manhattan, NY:

Project manager for the $161 million design-build construction of an underground personnel passageway (connector) from the proposed Fulton Street Transit Center to the new PATH Station at the World trade Center. The concrete box constructed beneath the R/W and 4/5 active subway lines uses underpinning techniques to provide permanent support of the subway lines beneath the two station areas, and cut-and-cover methods between the stations. Responsibilities included managing and directing the final design, interfacing and coordinating with the design-build contractor, and providing construction phase services.

Port Authority of Allegheny County, North Shore Connector Project, Pittsburgh, Pennsylvania: Design manager for all underground engineering. Responsibilities included managing and directing the project teams to provide final engineering and design documents for the $538 million underground transit project to connect the central business section with the newly developed sports stadiums and the North Shore area. Major components included 4,400 feet of twin bored tunnels using EPB TBM; 3,500 feet of cut-and-cover tunnels; slurry wall and cofferdam design; tunneling adjacent to an occupied historic building using underpinning techniques; and three underground stations. The engineering and design required extensive integration of the structural, geotechnical, tunneling, tunnel fire and life safety requirements, track systems, station architecture, and environmental groups focusing on assuring compatibility among the various design elements and groups.

North Jersey Transportation Planning Authority (NJTPA), McClellan Street Underpass (Tunnel) Project, City of Newark, Essex County, New Jersey: Tunnel specialist for the feasibility and alternative analysis to allow McClellen Street to pass beneath five active AMTRAK Northeast Corridor lines without a disruption to service. The analysis considered cost, constructibility, safety, environmental impacts, and public acceptability. Developed two tunnel conceptual design options: (1) a full-faced tunnel jacking box method, and (2) a pipe roof tunnel method for the soft ground conditions.

Massachusetts Bay Transportation Authority (MBTA), South Boston Piers Transitway, Boston, Massachusetts: Project manager for final design and construction of this $480 million 3-mile underground transit system to connect Boston's central business district with the developing piers area and South Boston. Key elements of the project included two cut-and-cover stations built in conjunction with a major highway project; an immersed tube tunnel channel crossing; construction of 400 feet of mined tunnel beneath an occupied historic building utilizing major underpinning and ground freezing. In addition, the project involved the most complex utility relocation in the city's history and is located in one of the busiest intersections in Boston. Maintenance of utility service required complex construction staging to accommodate the Dewey Square abutters and Central Artery/Tunnel construction, and to coordinate with utility companies and community representatives.

Puerto Rico Highway and Transportation Authority (PRHTA), Highway PR-53, Maunabo to Yabucoa, Mariani and Santa Elena Tunnel Project, San Juan, Puerto Rico: Project manager for the $100 million highway tunnel using drill and blast methods. Directed and managed an engineering team to develop the structural/tunneling engineering and design for this design/bid/build project consisting of a 2,000-foot long twin rock barrel highway tunnel known as the Mariani Tunnel. Project included tunnel ventilation, development of drill and shoot tunneling method using rock anchors, fire/life/safety systems, and a maintenance and facilities structure. Directed the seismic risk evaluation and design parameters for design.

Metropolitan District Commission, Homestead Avenue Interceptor Extension, Hartford, Connecticut: Tunnel specialist on the tunnel advisory team to review the final design of a 3,000-foot/8-foot-diameter sewer tunnel excavated by pressurized face soft saturated silts and clay ground microtunneling using a tunnel boring machine in downtown Hartford.

Texas Department of Transportation (TxDOT) Dallas District, IH 635 (LBJ) Managed Lanes Project, Dallas, Texas: Lead tunnel engineer for the preliminary design for 5.7 miles of tunnels, consisting of 3 miles of cut-and-cover in soft ground and 2.7 miles of roadheader-excavated NATM tunneling in soft Austin Chalk rock. Major components included tunnel design, support of excavation, tunnel construction staging, tunnel ventilation and emergency egress shafts, ventilation buildings, and fire life safety programs.

Michael J. Kirschman, AIA

Stations - Architecture

Firm: AECOM

Education

BS, Architecture, New York Institute of Technology, 1987

Professional Registrations

Registered Architect:
NY, NJ and CT

Professional Associations

American Institute of Architects (AIA)

Historical Preservation Society

Employment History

1998-present: AECOM, Architectural Department Manager

1987-1991: Ward Associates, P.C., Bohemia, NY

1991-1998: Hazen and Sawyer, P.C., New York, NY

Mr. Kirschman has substantial experience in architecture that includes project management, design, and supervision during construction. His experience encompasses many municipal projects including administrative, institutional, industrial, schools, water and wastewater treatment facilities, parks and recreational facilities, and numerous commercial projects.

Grand Central Terminal Exterior Rehabilitation, Metro North Railroad, New York, New York: Managing architectfor modifications and rehabilitation to historical landmark building. The project included recommendations and detailed design for temporary and long-term solutions to historic architectural features of the buildings façade, including structural design modifications to doors, windows, and transoms. The project included correspondence with the New York State Office of Parks Recreation and the Historic Preservation Office, community boards, and NYC landmarks groups.

TSA EDS/ETD Airport Security Program, Various Locations: Project architect for the design coordination team. The project included the implementation of guidelines from the newly founded Transportation Security Administration at 35 airports. The designs included reconfiguration of check bagged screening nodes, terminal redesign, and placement of security related equipment.

MTA New York City Transit, New York, NY: Project manager for ADA feasibility studies at nine transit stations. Projects included conceptual and preliminary design efforts for accessibility to subway and elevated stations. Produced new design solutions that introduced feasible locations for elevator and ramp access to existing stations incorporating structural, mechanical, electrical, and communications systems modifications.

MTA New York City Transit, New York, NY: Project manager for the electrical distribution room and pump room rehabilitation. The project included working with Transit Authority staff in developing and renovating 12 locations on the Fulton Street Line in Brooklyn. Provided coordination for other disciplines, architectural design solutions, and final construction documents for bid.

Graybar Building Entrance Renovation, Metro North Railroad, New York, New York: Project manager for modifications to an historical building entrance to Grand Central Terminal. The project included ADA accessibility, architectural, structural, mechanical, and civil design modifications to doors, windows, transoms, and terrazzo flooring. The project also included corresponding with the New York State Office of Parks Recreation and the historic preservation office, community boards, and NYC landmarks groups.

Newark and Teterboro Airports, Port Authority of New York and New Jersey (PANY&NJ), NJ: Project manager for professional

Michael J. Kirschman, AIA continued

architectural and engineering design services for the Newark and Teterboro Airports. The work entailed a wide spectrum of tasks encompassing planning, engineering and design, preparation of construction documents, as well as construction support services for a broad array of airport terminal and landside projects. Managed and coordinated subconsultants and teams from a resource pool of architects, and civil, structural, electrical, mechanical, and geotechnical engineers from NY and NJ office locations.

Newark International Airport, Continental Airlines, Newark, NJ: Project architect for the design coordination team. The project included master planning and design efforts for expanded operations at the airport. New facilities included a concourse, apron reconfiguration, terminal redesign, parking structures, baggage claim system, and cargo and hangar facilities.

JFK International Airport, American Airlines, Queens, NY: Deputydesign manger responsible for the design and implementation of selected project elements, including vertical/horizontal transportation for ADA accessibility, exterior enclosure, and numerous rehabilitation transitional and demolition projects. Project management duties included liaison to the Port Authority and ensuring the project received proper approvals in a timely manner. Also acted as coordination manager for implementation of the Authority's needs into final design documents.

School Construction Authority, Queens, NY: Deputy project manager for scoping and design tasks on numerous projects. The projects included preliminary scoping studies that led to final design drawings for construction. The projects also included evaluating existing masonry, roofing, and building conditions, and incorporating deficiencies with SCA design standards for inclusion in final bid documents.

Mount Prospect Park Building Renovation, City of New York Parks and Recreation, Brooklyn, NY: Project architect for preliminary and final design of the rehabilitation to an historic park structure. The project included the replacement of landscaping, building materials, plumbing, and electrical fixtures and systems. Coordinated, supervised, and managed the contract document preparation and provided general oversight during construction.

Holbrook Country Club Park, Town of Brookhaven Parks and Recreation, Holbrook, NY: As staff architect, responsibilities included schematic and final design for the design and construction of a golf course clubhouse, concession building, and golf cart storage building. This project provided a new golf course facility to local residents at the site of a landfill and abandoned properties.

Cedar Beach Bathhouse, Town of Brookhaven Parks and Recreation, Brookhaven, NY: Project architect for design and construction supervision services for the preliminary and final design of a beach comfort station and adjoining children's playground. This project provided beachfront facilities to local area residents.

Avenue V Pump Station Rehabilitation, New York City Department of Environmental Protection, Queens, NY: Project architect for the preliminary and final design of the rehabilitation of an historic landmark building erected in 1905. Responsibilities included schematic and final design for the modernization of a building, replacing antiquated mechanical and building systems with newer ones. Developed reports, details, and strategies for the replacement of the terra cotta elements, windows, doors, and louvers; and extensive rehabilitation to existing ceramic tile finishes.

Newton Creek Water Pollution Control Plant Rehabilitation, New York City Department of Environmental Protection, Queens, NY: Project architect for preliminary and final design of the renovation to all plant facilities and structures at this facility. The project included analyses, schematic, and final design for the conversion of the plant to accept new mechanical and biological processes. The design featured new central heating buildings, generator facilities, administrative facilities, shops, electrical substations, and various mechanical and process buildings.

John Seaboldt, PE

Stations - Facility Design

Firm: AECOM

Education

BS, Civil Engineering, Manhattan College, Riverdale, NY, 1980

Professional Registrations

Professional Engineer: NY and NJ

Professional Associations

Metropolitan Rail Club of New York

American Society of Civil Engineers (ASCE)

New York State Society of Professional Engineers (NSSPE)

Employment History

2002-present: AECOM, Transit/ Rail Project Manager

1985-2002: MTA Metro-North Railroad (MNR), Director of Capital Engineering for Facilities and Deputy Director

As former director of Capital Engineering-Facilities for MTA Metro-North Railroad (MNR) in New York, Mr. Seaboldt has overseen a vast amount of rail station, facility, and infrastructure projects. He has presided over the construction, preliminary planning, and design phases of projects with annual budgets in excess of $50 million. During his 17-year tenure with MNR, Mr. Seaboldt implemented numerous improvement projects, including many of the major recent improvements and expansion to Grand Central Terminal. Since joining AECOM, Mr. Seaboldt has worked with various MTA agencies, including the LIRR, MNR, NYCT, and Capital Construction, as well as other rail transit agencies such as NJ Transit, ConnDOT, and the Chicago Transit Authority.

Mr. Seaboldt participated in the Eno Center for Transit Leadership's (CTL) 2008 Executive Development Program, an intensive week-long program tailored to senior level managers in public transportation agencies and companies that serve the transit industry.

NYCEDC, Program Management Services for Yankee Stadium Redevelopment, Bronx, NY: Project director providing program management services for City of New York projects surrounding and supporting the construction of the new Yankee Stadium in the Bronx. Program management services will encompass construction coordination, scheduling, traffic and pedestrian planning, coordination mapping of utility upgrades/relocations, and strategic planning. These complex tasks are essential to the execution of concurrent and adjacent large construction projects in a dense urban environment close to the current Yankee Stadium - a facility that generally attracts over 50,000 people per game. The program manager will ensure that NYCEDC (representing a number of city agencies, including the mayor's office, NYC Parks and Recreation, and the NYC Department of Transportation) has the necessary resources to bring the project to a successful conclusion. The success of these interlocking projects will hinge on area-wide adherence to various schedules, scopes of work, and safety measures, requiring cooperation and communication among the many participating developers, stakeholders, and government agencies. The following projects are included in the program: Yankee Stadium parking facilities (including three new parking garages, and rehabilitation to existing parking garages and surface lots); an MTA Metro-North station and city pedestrian bridge; parkland replacement, upgrades and community recreation sites (including the new 7-acre Macomb's Dam Park on the roof of one of the new parking garages, the Heritage Field/Ruppert Place park at the site of the current stadium, and the Bronx Terminal Market Waterfront Park at the site of the former Bronx Terminal Market piers along the Harlem River); and substantial utility and infrastructure upgrades and streetscape improve-

ments throughout the stadium redevelopment area. The above projects and others currently ongoing in the area represent approximately $2.5 billion in total project costs.

Yankee Stadium Transportation Center, MTA Metro-North Railroad (MNR), New York: Project manager responsible for conceptual design, cost estimates, force account scope development, evaluation of alternatives, topographic and property surveys, track reconfiguration designs, and constructibility analysis, all done on an accelerated schedule. To accomplish these tasks, AECOM managed numerous concurrent activities and worked with the MNR project team to develop a 10 percent design report outlining the concepts for a new rail station on the Hudson line near Yankee Stadium. Based on the conceptual design that was developed, a subsequent contract was awarded to AECOM for the preliminary design of the new Yankee Stadium train station, including the preparation of design-build procurement documents. AECOM was selected to provide construction supervision and inspection for this $60 million project, where Mr. Seaboldt now serves as the project executive.

Brown Line and Clark Junction Rehabilitation, Chicago Transit Authority (CTA), Chicago, Illinois: Senior constructibility engineer for this $537 million project providing construction management services for extending platforms at 18 stations to accommodate eight-car trains and increase capacity by 33 percent; reconstructing 16 stations, and installing elevators at 13 stations, making all of them accessible to customers with disabilities. Clark Junction is the site where the Brown, Purple, and Red Line trains merge. Rehabilitation here will include replacing worn sections of track; installing special track work; and upgrading third rail power, communications, and signal systems. Performed construction phasing review to ensure uninterrupted service during construction; and project control services, including mandatory constructability reviews, construction scheduling, and cost estimating services, which provided the CTA with the documentation necessary to meet US FTA full-funding agreement requirements.

MTA Metro-North Railroad (MNR) - Capital Programs Engineering, New York, New York: As director of capital engineering for facilities, supervised MNR's capital program, which involved ensuring compliance with MNR's operational requirements and customer service standards, providing technical advisement for ongoing projects and new initiatives, and contributing to the preparation and amendment of MNR's five-year capital improvement programs. Projects included:

- Yonkers Station and Lower Hudson Line Stations $100 million rehabilitation: Project work involved replacement of platforms, ADA improvements, modifications to the station building and architectural improvements at the Yonkers Station. Eight other Hudson Line stations from Morris Heights to Greystone were included in this project.
- Grand Central Terminal (GCT) in Manhattan $150 million infrastructure rehabilitation: Supervision of approximately 12 projects, including Grand Central North, central plant utility improvements, mechanical and electrical distribution, water service replacement, disabled access improvement (to bring Grand Central Terminal in compliance with ADA), and priority structural repairs, including the rehabilitation of the 67th Street brick arches.
- $12 million improvements to the Croton-Harmon Station platform and overpass: Rehabilitation of the station, involving the replacement of two of the three island platforms.
- $9 million Mount Vernon East Transportation Center: Design and construction of a new transportation center within site constraints at the Mount Vernon train station.
- $6 million improvements to Larchmont Station: This project involved a site investigation, condition assessment, and final design services for station rehabilitation on the New Haven line in Westchester County. Other projects included the $25 million improvements to the Poughkeepsie Station parking and intermodal facilities, and the $50 million improvements to the Hudson line stations (design-build).

Robert Pinghero, PE

Stations - Structural Design

Firm: AECOM

Education

BS, Civil Engineering, University of New Haven, CT, 1984

Professional Registrations

Professional Engineer: NY and NJ

Employment History

2002-present: AECOM, Structural Project Manager

1984-1992: John J. Kassner & Co., Inc.

1992-2002: Vollmer Associates

Mr. Pinghero has acquired significant experience as a structural engineer on transportation projects. Though his experience is primarily associated with mass transit projects, both above and below ground, for clients such as New York City Transit, NJ Transit, and Metro-North Railroad, he is accomplished in the structural design, rehabilitation design, and inspection of viaducts and bridges. He has also acted as the structural project manager on many facilities rehabilitation projects with responsibilities including inspection, repairs, modifications to existing stations, and the design of new stations elements. These elements have included pedestrian bridges and other circulation improvements, such as escalators, elevators, and new stairways. Many of these projects, both the rehabilitation of existing facilities and the design of new facilities, have included ADA Accessibility components. Due to these experiences, he has developed a recognized expertise in evaluating ADA Accessibility alternatives with respect to construction feasibility, economics, and limiting impacts to existing operations.

MTA MNR, Grand Central Terminal Façade Restoration, New York, NY: Structural project manager responsible for the design of the structural rehabilitation details associated with the overall rehabilitation of the building's façade. Performed the façade inspection and identified areas of the building in need of repair. Provided structural construction support services (which included the review of shop drawings), responded to the contractor RFI's, and performed supplementary inspections of the building's structure as the contractor proceeded with the restorative work.

Slattery Skanska USA, Dey Street Concourse Design-Build Project, Manhattan, NY: Lead structural engineer for the project responsible for leading the structural design effort for the construction of the structural box for the Dey Street Connector. The project consisted of the construction of an underground passageway (connector) from the new PATH Station at the former World Trade Center site to the proposed NYCT Fulton Street transit center. The concrete box was constructed underneath two active subway lines; oversaw the design of the permanent underpinning of these lines to allow for the construction of the passageway. Responsibilities on the project includes interfacing with the design-build contractor on construction issues, overseeing the review of shop drawings and RFI's, and coordinating the final structural design documents with the other disciplines on the project.

MTA NYCT, ADA Feasibility Studies at 22 NYCT Subway Stations, New York City, NY: Project manager responsible for all aspects of an ADA feasibility study at these stations. The study examined several alternative layouts for elevators, and load rating analysis of the existing viaducts at the elevated stations, which would support a portion of the new elevator loads on the existing structure. Conceptual structural design plans were prepared for each station.

Potential utility relocations and impacts to station operations were also reviewed during the course of the studies. Conceptual construction cost estimates were prepared for each study. Station bypasses, short-term general track outages, and construction under flagging conditions were reviewed as part of the master plan.

MTA NYCT, 71st - Continental and Union Turnpike Station Rehabilitation, Queens, NY: Engineering project manager for the rehabilitation of two NYCT subway stations. Responsible for all civil and structural engineering for the project. Reviewed and directed a staff of engineers in all aspects of the project's scope of work, which included the overall inspection and repairs of the stations' elements, the design of station modifications to allow for the installation of elevators in order to make the stations completely ADA accessible, the design of other improvements such as stair relocations, slab removals, and other modifications to support the project architect's plan for the station. Responsible for the development of the contract documents - plans, reports, and specifications.

MTA NYCT, Rehabilitation of the Queens Plaza Station, New York, NY: Project manager responsible for all aspects of the civil/structural design at this station. Three ADA compliant elevators were designed to provide handicapped access to the station. In addition to the structural aspects of the elevator design, utility relocations and a comprehensive MPT plan were developed. Responsibilities on this project included construction support services.

MTA NYCT, IRT/BMT Rector Street Connector, NY: Project manager for the development of the conceptual design for this new connecting mezzanine between the IRT and BMT Rector Street stations, providing ADA accessibility to both stations from one common street entrance. Issues addresses and developed as part of the conceptual design included the layout of a new street level entrance plaza; layout of a new mezzanine and fare control array; layout of a new sub-passage; conceptual structural plans detailing modifications to the station structure and the proposed structure for the new connection; conceptual utility relocation plans; underpinning of the adjacent structures; excavation bracing and drift mining plans for extending the sub-passage under the active subway track structure; and water cut-off systems. Developed and implemented the test pit and soil investigation plan and prepared the RFP package for NYCT to issue for design-build bids.

MTA NYCT, Local Platform Elevators at the 34th Street Station/7th Avenue Line, New York, NY: Project manager responsible for the installation of ADA-compliant elevators on the local platforms at the subject station. Specific tasks included evaluating the existing structure to determine the optimum location for elevators. Extensive steel re-framing of a portion of an existing building was required to allow for the installation of one of the elevators. Assisted NYCT with the negotiations for the acquisition of adjacent private property to provide the required space for the elevators. Completed the production of the contract documents - plans, specifications, and cost estimate.

MTA NYCT, Indefinite Quantity A/E Contracts CM-1046 and CM-1123, New York, NY: Project manager for NYCT on-call contracts. Task order assignments consisted of ADA feasibility studies for transit stations throughout the system, numerous survey and existing utility mapping assignments, utility relocation design projects, rehabilitation of pump rooms, the inspection of several NCYT buildings, and the design of a new NYCT employee facility in Staten Island. Responsible for all administrative elements of all task orders as well as the design review for nonstructural assignments. Also responsible for all technical issues associated with structural projects.

MTA NYCT, Rehabilitation of Times Square Subway Complex, New York City Transit, New York, NY: Quality assurance reviewer of all structural design issues associated with the design of Contract 1 and 2. Reviewed all structural drawings prior to the submission dates, and evaluated the constructibility issues and phasing plans.

Michael R. Trabold, PE

Stations - Structural Design

Firm: AECOM

Education

MS, Structural and Geotechnical Engineering, Manhattan College, NY, 1993

BE, Civil Engineering, Manhattan College, NY, 1990

Professional Registrations

Professional Engineer: NY

Professional Associations

American Society of Civil Engineers (ASCE)

Employment History

1990-2000: New York City Transit, Project Engineer

2000-2002: Vollmer Associates, Senior Structural Engineer

Mr. Trabold is a senior structural engineer with significant experience in structural design, geotechnical engineering, and extensive subway and station experience, mainly in transit and commuter rail related projects in the New York City area. His experience includes structural design and analysis, preparation of specifications and cost estimates, structural inspections, construction support services, and project management. Mr. Trabold has been extensively involved in the coordination and preparation of detailed contract plans.

MTA NYCT, Second Avenue Subway, New York, NY: Structural engineer on this project to design a full length Second Avenue Subway extending from 125th Street to the financial district. Responsibilities include layout and design of cut and cover tunnels and stations, analysis of existing tunnels, incorporation of seismic design criteria, preparation of quantity estimates, utility layout of existing tunnels, preparation of building survey reports, and coordination with various other engineering disciplines.

Slattery Skanska USA, Dey Street Concourse Design-Build Project, Manhattan, NY: Project engineer for design team on this $135 million design-build project. Work includes underpinning two active subway lines, construction of a 300-foot tunnel between the two stations, re-framing of the stations' roofs and platforms, various new utility and relocation work, and general roadway/sidewalk restoration work. Responsibilities include coordinating all technical issues with the contractor and design team, review of all contract documents (including drawings and specifications), coordinating all subconsultant work, responding to requests for information, maintaining project schedule, and coordinating all construction support services. Must also coordinate all work with MTA's representatives for architectural and MEP interfaces.

MTA MNR, Design of Miscellaneous Improvements to Grand Central Terminal Lower Level Train Shed, Manhattan, NY: Design engineer for the inspection and design of repairs for the rehabilitation of the lower level of the train shed, as well as the rehabilitation of the drainage system for the entire train shed. The work involved the design of structural repair details, and temporary construction support.

Bear Stearns and Metro-North Railroad (MNR), North End Access Improvements to East and West Spines, Manhattan, NY: Project engineer in charge of construction support services. The project consisted of the construction of two enclosures, 800 feet by 20 feet, inside Grand Central Terminal, including all structural, mechanical, electrical and architectural items. Responsibilities included coordinating between the design team and the general contractor, resolution of construction coordination issues, preparation of design sketches, approval of payments and work orders, and control of the construction support budget.

Michael R. Trabold, PE continued

Boston Properties, 5 Times Square, Manhattan, NY: Design engineer for the design of two new subway entrances into the new office tower constructed at 5 Times Square. The work consisted of the demolition of the existing subway structure and the construction of subway entrances into the new building. Coordinated all work with the contractor and the New York City Transit Authority. Checked, reviewed and coordinated all drawings and calculations; developed construction sequencing drawings; and checked and reviewed temporary bracing drawings and calculations.

Boston Properties, Site 1 - Times Square, Manhattan, NY: Design engineer for the design of excavation bracing for the construction of a new office town adjacent to NYCTA subway lines. The work included the development of contract drawings showing temporary bracing for the existing subway lines during the construction of an adjacent new building. Responsible for reviewing and checking all calculations and drawings.

The Related Companies, 20th Street Seventh Avenue, Manhattan, NY: Project engineer for the design of excavation bracing for a proposed new building. The work consisted of the design of excavation bracing for the new building and coordination with the contractor and the building's engineer. Responsible for all drawings and calculations, and coordination of all work with the New York City Transit Authority, the contractor, and the building's structural engineer. Also responsible for control of the design budget.

34th Street Partnership, Rehabilitation of Herald and Greeley Squares, Manhattan, NY: Design engineer for the rehabilitation of Herald and Greeley Squares. The work involved new comfort stations, concession stands, traffic patterns, and various architectural features. Responsible for the design of foundations for the new comfort stations and concession stands, and coordination of all work with other disciplines and the New York City Transit Authority.

MTA NYCT, Rehabilitation of Pelham Parkway Station - White Plains Road Line, Bronx, NY: Assistant design manager for the preparation of contract documents for the rehabilitation of the Pelham Parkway Station. Responsibilities included review and coordination of all contract documents. Coordinated between design team and user groups, reviewed cost estimates, and checked drawings for inter-discipline coordination. Responsible for maintaining design schedule and remaining within both design and construction budgets.

MTA NYCT, Rehabilitation of 145th Street Station - Lenox Avenue Line,Manhattan, NY: Project engineer for the demolition of the roof structure; the repair of structural members to remain; and the design of a new reinforced concrete roof structure, as well as street drainage and utility design. Responsibilities included supervising and coordinating all design work, preparation of contract documents, and coordination with NYCDOT and various utility companies.

MTA NYCT, Rehabilitation of 14th Street Station - 8th Avenue Line, Manhattan, NY: Project engineer responsible for construction support services. The work consisted of approval of all materials and shop drawings, and re-design of various station components (including new stair cases, elevator shafts, and ADA ramps).

MTA NYCT, ADA Feasibility Studies - Various Stations, NY: Project engineer responsible for the review and approval of various ADA feasibility studies for various stations throughout NYCTA. Responsibilities included the review of drawings for compliance with ADA and NYCTA design codes, coordination of design disciplines and user groups, and control of schedule and budget.

Central District Transit Authority (CDTA), Rensselaer Rail Station, Rensselaer, NY: Project engineer for the construction of high level platforms, canopies, overpasses, and station building for the Rensselaer Station. Responsibilities included the design of new canopy framing, review of contract drawings, and coordination with the project architect and foundation engineer.

Jim Zebarth

Procurement - Contracts/Claims

Firm: AECOM

Education

BS, Civil Engineering, University of Western Ontario, London, Ontario, Canada, 1978

Employment History

1997-present: AECOM, Civil Technical Leader

1991-1997: Booz-Allen, Senior Associate

1987-1990: Calgary Transit, Senior Engineer

1982-1987: Calgary Light Rail Construction, Design/ Construction Engineer

1980 -1981: Cambrian Engineering, Project Engineer

1978-1979: DelCan DeLeuw Cather, Project Engineer

Mr. Zebarth has extensive professional management and engineering experience in transportation systems design, construction, operations, maintenance, and project management. He has led the development of large turnkey projects in the Northeastern United States, and has supported business planning, funding, financing, and development issues for large projects internationally and across the country. He has proven expertise in evaluating the feasibility of light rail transit (LRT) systems, and implementing LRT systems in a way that increases efficiency and decreases cost.

MTA NYCT, Second Avenue Subway, New York, NY: As the contracts and procurement manager for Phase 1, played a key role in the development of the project phasing plan for Second Avenue Subway, incorporating an early revenue service segment and a construction contract packaging plan to minimize schedule and cost risks while meeting tight schedule and budget constraints. Worked with Authority's management, procurement, and legal staff to develop new standard design-build procurement and contract documents, including terms and conditions, special conditions, and agreement. The new documents were developed to allow fast tracking of construction, and to increase contractor competition in the difficult New York market. The documents are currently being used for the design-build TBM Tunnel Contract, 92nd to 62nd Streets, estimated at $300 million, and will be used on future NYCT design-build contracts. Coordinated the development of engineering and baseline documents to ensure consistency with NYCT's contracting approach and to provide clear allocation of risk.

Hudson-Bergen Light Rail Transit Project, NJ: Project director for a 10-mile design-build/operate/ maintain (DBOM) project. Led the development of the procurement and financing approach used on the $1.2 billion project. This was the first large turnkey project in North America to break from the use of a design-build type procurement strategy. Used a DBOM approach to obtain the necessary support of contractors in controlling construction scope and cost, and to achieve operating efficiencies through privatized system operation. Managed the development of the operating approach, business plan, performance specifications, and contract. The use of a DBOM approach will accelerate completion of the initial 10-mile segment by seven years, and will reduce initial segment costs by approximately $100 million. Similar schedule and cost savings are expected on planned extensions to the system. Another notable first was the provision of contractor financing for 100 percent of the project cost, a key requirement to accelerate the project schedule.

WMATA Largo Blue Line Extension, Red Line Infill Station, Washington Metropolitan Area Transit Authority (WMATA), Washington, DC: Led the development of new WMATA design-build procurement and contract documents (divisions 0 and 1) for Blue Line and Red Line contract work (approximately $400 million). The use of this approach resulted in significant schedule acceleration, and allowed considerable contractor input to help reduce overall project costs. Previous major WMATA contracts had been let as low bid contracts. The work included the development of new processes and procedures to comply with federal requirements. In addition, assisted WMATA in developing new standard CM at risk procurement and contract documents for use on future projects.

River Line Design-Build Project (formerly Southern New Jersey Light Rail Transit System), NJ Transit, Trenton to Camden, NJ: Deputy project manager for the design-build/operate/maintain (DBOM) contract. Mr. Zebarth led the development of the funding, financing, and related economic development strategies. Currently oversees the overall project procurement process for the project. Responsible for overall technical integration to allow the operation of a new diesel low floor light rail vehicle fleet on track shared with CSX and Norfolk Southern. The 33-mile long system will be the first in North America to use diesel light rail vehicles. The use of these new technology vehicles helped reduce the project construction cost to only $13 million per mile, substantially less than most conventional LRT systems. The diesel fleet will also provide operating flexibility and cost savings not achievable through any other means.

Los Angeles County Metropolitan Transportation Authority (MTA), Los Angeles, CA: Key technical advisor evaluating alternate procurement approaches for the $800 million Pasadena light rail transit blue line. Studied the merits of continuing with a conventional design/bid/build approach versus changing to a turnkey procurement methodology. Based on his analysis of progress to date, as well as schedule, contractual, and cost impacts of changing to a turnkey approach, the MTA chose to continue with a conventional design/bid/build approach.

Ultimo Pyrmont Light Rail Transit (LRT) Project, Sydney, Australia: Deputy project manager to the New South Wales Department of Transport for this project, the first LRT system in Australia. Managed the development of technology and system performance specifications, as well as payment and contract provisions. The project's system development approach was unique. Due to the lack of available government funding, a build/own/operate/transfer (BOOT) approach was developed that included significant contractor participation in project funding. The LRT system was successfully completed and has commenced operation. The contractor provided funding for approximately 50 percent of the project cost. Financing was arranged through the Australia Investment Development Corporation and will be repaid from revenues. The contractor bears full revenue risk for the operation of the system. This was the first major public transportation project in Australia to successfully transfer such a high level of construction and operating risk to a contractor without extensive government backstop guarantees.

San Francisco Municipal Railway Automatic Train Control System (ATCS), San Francisco, CA: Task manager for the operating plan. Led operations plan development and provided systems integration support for the installation of the ATCS. The new state-of-the-art system will increase light rail transit throughput from the present maximum of 23 trains per hour to 60 trains per hour. The increased throughput is being achieved by tailoring Alcatel technology to detect and manage approaching trains "on the fly." Assessed cost and efficiency impacts relating to the potential use of new technology low floor light rail vehicles on future and existing light rail transit lines. Due to the extensive number of high floor platforms in existing tunnels and the high cost of lowering these, the adoption of a low floor car fleet has been deferred indefinitely.

Marc Cunningham, RA, Esq.

Procurement - Contracts/Claims

Firm: AECOM

Education

J. D., New York Law School, New York, NY

B. Arch., Cooper Union School of Architecture, New York, NY

Professional Registrations

Attorney - Admitted to practice in NY, NJ, CT, DC, OH, MD, MA, WV. Anticipated admission to PA Bar 12/1/08.

Architect - Admitted to practice in New York and New Jersey.

Real Estate Broker - Licensed in New York.

Employment History

2007-present, Attorney

2006-2007: Schindler Elevator Corporation, Acting Assistant General Counsel (Temporary Assignment)

2003-2006: Foster Wheeler Inc., Risk Counsel, Risk Management Division

2001-2003: Foster Wheeler, Inc., Risk Counsel, Risk Management Division, Senior Counsel, Litigation Division

1992-2001: Port Authority of New York & New Jersey, Senior Attorney, Construction Contracts Division

1986-1992: Architectural Consultant / Developer / Contractor

1976-1986: Architect (various firms) NYC, NY

1990-2000: Real Estate Broker, New York, NY (PT)

Contract Attorney. General: Drafting, negotiation and review of numerous types of: contracts, including but not limited to construction, general sales, vendor, software and hardware purchase and sale, and, procurement; agreements, including but not limited to copyright license, intellectual property license, non-compete, end-user license, technology license, intellectual property distribution, telecommunications usage, internet service provider, bandwidth usage, non-disturbance, non-compete, marketing, advertising, development, outsourcing, ex-patriot, brokerage, agency, strategic alliance, partnering, joint venture, master purchase, consulting, real estate purchase and sale, easement, project labor, and, license; real estate leases, including but not limited to residential, commercial, office, marine, industrial, telecommunications, shopping center, and, ground; miscellaneous documents, including but not limited to press releases, letters of intent, notices to proceed, requests for qualifications (RFQs), requests for proposals (RFPs), construction and procurement bid documents and specifications, and, equipment leases; and, various types of negotiations, including but not limited to construction claims, property claims, personal injury claims, wrongful discharge, sexual harassment, alternate dispute resolution, arbitration, and, mediation.

Finance: Drafting and review of various agreements, including but not limited to data repository and analytics services; instruments of accession; print mail services; remote access services; accounting services; mutual fund service agent administration; investor services; proxy services; custodian services; anti-money laundering customer identification and privacy services; transfer agency services; “blue sky” registration services; escrow; and, underwriting) and SEC forms related to various transactions subject to the 1933 Securities Act, 1934 Securities Exchange Act, 1939 Trust Indenture Act, 1940 Investment Advisers Act, 1940 Investment Company Act, 1970 Bank Secrecy Act, 1970 Securities Investor Protection Act, 2001 USA Patriot Act – Title III and Title X – and 2002 Sarbanes-Oxley Act.

Schindler Elevator Corporation, Morristown, NJ: Acting Assistant General Counsel (Temporary Assignment). Oversight of staff of twelve (two attorneys and five paralegals in corporate headquarters, and five paralegals in offices throughout the U.S.); contract review (approximately 16 per week); major contract negotiations (approximately 2 per week); collections (approximately $75,000 per month); supervision of outside counsel; budget management; case management (including but not limited to contracts, labor, commercial transactions and employment issues); analysis of industry, litigation and risk management trends; corporate governance; drafting, negotiation and review of corporate policies, RFPs, RFQs, bids, confidentiality agreements, vendor contracts,

telecommunications contracts, procurement contracts, software and hardware contracts, outsourcing agreements, equipment leasing, master purchase agreements and consulting agreements; strategic advice to executive management; extensive direct interaction with customers and their legal representatives regarding claims and contract negotiations.

Foster Wheeler Inc., Clinton, NJ: Risk Counsel/Risk Management. Management of corporate insurance programs and analysis of risk management-related issues in litigation and corporate administrative programs; management of corporate programs for compliance with Sarbanes-Oxley Act (SOx); and, administration of corporate Workers' Compensation program.

Sarbanes-Oxley Compliance: Continuing review of existing and proposed corporate activities and policies for compliance with proprietary SOx-mandated controls. Responsible for enforcement of proprietary SOx-mandated controls. Identification, preparation and refinement of proprietary SOx-mandated controls for all business processes at corporate headquarters. Provision of ongoing training and testing of all relevant employees regarding their compliance with proprietary SOx-mandated controls and proper documentation thereof. Provision of direct support to process owners for assessment and analysis of respective control environments. Evaluation, assessment, implementation and coordination of SOx-mandated controls proposed by process owners to ensure the achievement of intended objectives. Development, scheduling and execution of corporate-wide testing plans for SOx compliance and subsequent evaluation interpretation of the test data. Elevation of potential control weaknesses in SOx-related processes to executive management with recommendations for alternative remedies. Direction of, interaction with, and participation in SOx-related audit teams to ensure that all issues identified within the individual business processes were addressed timely, appropriately and uniformly throughout all corporate entities, and that all reporting requirements were achieved.

Senior Counsel, Litigation Division: Corporate litigation management involving: construction contracts; construction claims; employment; torts; commercial paper; taxes; real estate transactions, procurement and, commercial transactions.

Port Authority of New York & New Jersey, New York, NY: Senior Attorney, Construction Contracts Division. Construction contracts; construction claims; real estate transactions; and, agreements.

- Developed, drafted and administered the legal content of three hundred fifty-eight (358) construction contracts for building, airport, railroad, light rail, security, maritime, highway, tunnel and other miscellaneous projects, not one of which resulted in any litigation.
- Negotiated the resolution of numerous major construction claims, either directly, or through alternate dispute resolution proceedings.
- Negotiated construction and employment claims related to maritime construction work.
- Negotiated and administered the legal content of several major waterfront restoration construction contracts in association with the U. S. Army Corps Of Engineers, based on the Defense Federal Acquisitions Regulations (DFAR).
- Participated in real estate transactions including the negotiation and drafting of: purchase and sale contracts; easements; and, licenses.
- Cooperated and coordinated with the Port Authority Inspector General's office and various New York City, New York State and Federal administrative agencies in confidential investigations of allegedly illegal activities by contractors.
- Participated in various negotiations with major developers and governmental agencies.
- Negotiated and drafted commercial, retail, office, vendor and ground leases.
- Negotiated and drafted agreements for various documents, contracts and agreements, including but not limited to those for procurement, professional services, master services, software purchase and licensing, RFPs, RFQs, bids, bid disputes, contractor qualifications, hardware purchase and lease, commissions, marketing, confidentiality, processing services, equipment rental, settlements, outsourcing, telecommunications services and facilities.

John J. McVetty

Procurement - Contracts/Claims

Firm: AECOM

Education

Bachelor of Engineering (Civil Engineering), Manhattan College, NY

Professional Associations

American Society of Civil Engineers

Society of American Military Engineers

Employment History

1998-present: AECOM, Contract Administration Manager

1969-1996: The Port Authority of NY &NJ, Supervisor Contract Services

Mr. McVetty has over 34 years of experience in the management and administration of public and private works contracts. His experience includes all facets of contract and proposals preparation, administration, bid, risk assessment and overall direction and management.

Port Authority of New York and New Jersey: Contract Administration Manager responsible for administration of the preparation of advertisements; bid scheduling; contract document preparation, including development of stage three review and bid schedules; review of constriction documents; preparation of form of contracts; solicitation of contractors proposals. Duties also include; preparation of special negotiated contracts and supplemental agreements; communication and interaction with Engineering, Law and Risk Management Division; providing support, guidance, training and motivation to client's professional staff in absence of Assistant Chief Engineer; and providing the client with completion of 40 contracts with a construction award value of $130M.

Port Authority of New York and New Jersey: As Supervisor Contract Services, managed the preparation, review, bid and award of capital construction and major work programs totaling $1 billion at the WTC complex. Mr. McVetty was responsible for the following initiatives and accomplishments:

- Standardized procedures for consistency and conformance to company criteria. Within two months work quality markedly increased and project time shortened by one month. Award problems eliminated.
- Initiated use of WordPerfect word processing for form of contracts to improve quality and shorten preparation time. Resulted in processing time shortened by two months.
- Initiated improved management techniques resulting in additional month eliminated from project time due to Law Dept. recognition of improved quality and authorization to eliminate law review for contracts under $1,000,000.
- Empowered each staff member with responsibility for submitting projected and updated schedules. Each project avoided undue delays since alternative means taken to maintain schedule before delay occurred. Shortened average delay from three months to two weeks.
- Developed method to track operations and maintenance contracts. Allowed sufficient time for decision to re-bid or exercise option to renew contracts. If rebid was required the need to extend existing contract on a month-to-month basis was eliminated.

John J. McVetty continued

- Conducted classes with project managers to apprise them of time requirements for contract document preparation, Board approval and award process. By Project mangers eliminated from project time and ninety percent of projects were completed on or earlier then scheduled.
- Initiated use of Excel to computerize information systems eliminating man-hours for manual recording and providing reports and database in less time and increased accuracy.
- Managed professional and clerical staff of fourteen. Maintained productivity during downsizing of staffing requirements.
- Received two individual and one teamwork bonus award. Recognition of quality and productivity achievement and expediting major tenant move to World Trade Center Complex.

Port Authority of New York and New Jersey, The World Trade Department: As Supervisor Contract Services, responsibility included: assignment, managing and monitoring of projects within the contract service group; professional and clerical staff performance evaluation and recommendations for merit increases and interview recommendation of staff for hiring. Also administered the preparation of advertisements; bid scheduling; contract document preparation; receipt of proposals; evaluation of proposals for proper form and contractors qualifications including technical qualifications and the coordination of integrity and financial qualifications reviews; conduct preaward meetings ensuring all conditions for award are fulfilled; and preparing managerial reports concerning contract awards. Interacted directly with law, risk management, engineering, and procurement departments.

Assistant Supervisor Contract Services, responsibility included: preparation of special negotiated contracts and supplemental agreements; communication and interaction with Engineering, Law, General Services, Treasury and Risk Management Division regarding contractor evaluation/award and in developing new port authority standard contract language; schedule the work of other contract services staff; in conjunction with project staff provide schedule for review, bid and award phase of project to ensure completion within requirements; provide expertise for capital and major work programs which required accelerated scheduling.

Engineer: reorganized and streamlined procedures related to initial office space construction and alteration/reconstruction work; established functions associated with preparing, coordinating and reporting all projects for the Manager of Planning Division; provided project coordination of initial office space construction of over thirty tenants in Four World Trade Center.

Tenant Services Project Coordinator, responsibility included: development of construction schedules; review of construction documents; preparation of form of contracts; solicitation of contractors proposals; preparation of tenant cost summaries and associate approvals; execution of contract coordination of tenant relocation to and within the World Trade Center; evaluating and resolving tenant move-in requirements; provided central focus for tenant, tenant's architect/engineer, rentals personnel, project cost control, construction, engineering and operations division.

Rail Transportation Department: As Associate Engineer, supervised field office staff of two engineers and clerical staff of six in contract administration of twenty construction contracts for the Journal Square Transportation Center.

Aviation Department: As Engineer II, responsible for contract administration of change orders and evaluation/negotiation of contractor's claim of extra work for thirty heavy and building construction contracts at Newark Airport Redevelopment Project.

Michael Bean, AIA, CSI, CCS

Procurement - Specifications

Firm: AECOM

Education

B. Arch, University of Tennessee,Knoxville, TN, 1978

BSET, Architectural Technology, Memphis State University, Memphis, TN, 1975

Professional Registrations

Registered Architect: NY

NCARB, #[redacted]

Professional Associations

American Institute of Architects

Construction Specifications Institute

National Trust for Historic Preservation

Faculty Member, Institute of Design and Construction, Brooklyn, New York

Employment History

2003-present: AECOM, Senior Architect

1978-1979: J.R. McGovern and Associates

1979-1983: Miele Associates, Architects and Planners

1983-1984: Battaglia/Seckler, Architects and Planners

1984-1988: New York City Board of Education

1988-1993: New York City Department of General Services

1993-1998: MTA Metro-North Railroad

1998-2003: TAMS, an EarthTech Company

Mr. Bean is an Architect and Specifier with 30 years of professional experience. Michael is a Senior Architect with AECOM and is currently the Task Leader – Specifications for the 2nd Avenue Subway Project. He has extensive experience in the preparation of technical specifications, which includes performing research and collecting information; serving as a technical resource for material selection and product information.

Michael has significant experience in performing code analyses, assisting in the coordination of construction documents, and serving as a resource for drawing detail review. Also, he has been Project Architect during the construction administration phase of two projects.

Before joining AECOM, Mr. Bean was at TAMS, an Earth Tech Company.

Prior to joining TAMS, Mr. Bean worked at MTA Metro-North Railroad as a reviewer of plans and specifications and at the NYC Dept. of General Services (DGS), where he was in a supervisory capacity, Chief of the Specification Department (DDCM/ BBD).

Prior to NYC DGS, at the NYC Board of Education Division of School Buildings, he held the titles of Assistant Architect and Project Coordinator preparing specifications, estimates and contract drawings for alteration projects within the NYC school system. Previously, at Battaglia / Seckler he prepared contract drawings and performed contract administration duties and at Miele Associates, he was involved in the preparation of NYC Board of Standards and Appeals, Health and Building Dep't. applications; as well as being familiar with the ULURP process and the NYC Zoning Resolution.

MTA NYCT, Second Avenue Subway, New York, NY: As Task Leader- Specifications assigned to the Infrastructure Group responsible for providing technical assistance and coordination to the working groups during specification section preparation; assembly of the Project Specification.

New York City School Construction Authority, A&E Services for Renovation and Rehabilitation of Schools, Various Boroughs, NY: Prepared architectural portion of scope reports (various public schools) for roof replacement, window replacement, masonry repair and other projects. Coordinated different disciplines and estimating requirements involved in each project. Prepared specification, assisted in drawing details and coordination for those projects that continued beyond scope phase. Prepared permitting applications and obtained approval from NYCSCA (FID dept.) and other agencies when required for project.

Connecticut Department of Transportation, CT: As a team member performed inspection of existing buildings to review for compliance with Connecticut State Building Code (IBC 2005) and preparation of findings and recommendation

Michael Bean, AIA, CSI, CCS continued

report. Also, assisted in preparation of bid documents for items recommended for action as determined by ConnDOT.

New Jersey Economic Development Authority, Design Consultant Services for School Renovation Projects for Abbott Program, NJ: Prepared specifications and review of details for school projects in Paterson, Elizabeth, Hoboken, and Jersey City. Coordinated bid packages during the design and contract document phases for the alteration of school buildings. Provided assistance in construction administration phase.

Town of Walpole, Elementary School Design, Walpole, MA: Prepared specifications for the alteration of two elementary schools.

New York City Department of Design and Construction, A&E Services for Renovation and Rehabilitation of Schools, Various Boroughs, NY: Prepared specifications and provided miscellaneous drawing detail review for various public schools.

New York City Economic Development Corp., Whitehall Ferry Terminal, New York, NY: Prepared architectural specification, contract document phase, for building reconstruction which is a total replacement of a 158,000 square foot building around three existing ferry slips which included the New York City Department of Transportation, Staten Island Division office.

Rhode Island Resource Recovery Corp, Central Landfill Solid Waste Tipping Facility, Johnston, RI: Prepared the specification for new pre-engineered steel building

Waste Transfer Station, Newport, RI: Prepared the specification for new pre-engineered steel building.

New York State Department of Transportation, Stewart Airport Lighting Vault, New Windsor, NY: Prepared specification, reviewed, and coordinated details for new masonry structure. Provided construction administration phase services.

New York City Department of Design and Construction, Cultural Affairs Program Unit, Specification for College Point Sports Park - Phase 1, New York, NY: Responsible for preparation of multiple prime contract documents. Provided construction administration phase services

New Jersey Transit Corp., Pennsylvania Station, Central Concourse, New York, New York: Prepared the architectural specification for the 30% design

New Jersey Transit Corp., Pennsylvania Station, Hilton Corridor, New York, NY: Prepared the architectural specification for the bid contract documents.

MTA New York City Transit, NYC Transit IQC for Miscellaneous Design Services, Linden Track Shop, Brooklyn, NY: Prepared specification and performed drawing review for work consisting of roof replacement, wall cladding, and miscellaneous masonry repair.

Long Island Rail Road, Railroad Employee Facilities, Valley Stream and Oyster Bay, NY: Prepared specification for preliminary design (30%) and contract document specification for two new employee facilities at two sites.

MTA Metro-North Railroad, New York, NY: Project architect responsible for the in-house design, project specifications, and contract AutoCAD drawings. Reviewed consultant plans and specifications and developed the plan review for agency building permits (NYSUFPBC). Projects included the Emergency Control Center at Mott Haven, Garrison Parking Lot Improvements (Hudson Line), the Tower AB renovation (Grand Central Terminal), and the Mott Haven Welfare Facility, Bronx, New York.

Robert Dall

Track - Alignments

Firm: AECOM

Employment History

2003-present: AECOM, Civil Track Designer

2000-2003: Gannett Fleming, Track Designer

1997-2000: PBS&J, Civil Designer

Mr. Dall's extensive knowledge of track design and civil design software (InRail/InRoads) enables him to produce highly detailed and accurate designs in an efficient and well managed time frame. His experience ranges from a detailed knowledge of special track work and systems integration to highway design and plans production, along with his experience of managing the CADD group of a large design-build project. It's this experience that would make him a valuable member of any team.

MTA NYCT, Second Avenue Subway, New York, NY: As track designer, responsibilities entail horizontal and vertical design of track alignments using civil design software (InRail/InRoads). Develop calculations to determine car/equipment clearances based on alignment geometry and excesses created by train cars, and the design and layout of special track work.

Slattery Skanska USA, Dey Street Design-Build Project, Manhattan, NT: As civil designer, responsibilities included the design of roadways in the borough of Manhattan. This required the creation of a detailed digital terrain model, horizontal and vertical alignment design, and cross section production.

Slattery Skansa USA, Dey Street Concourse Design-Build Project, Manhattan, NY: As CADD manager, responsibilities consisted of the creation of a detailed MicroStation workspace that enabled the coordination and seamless integration of work done by AECOM, the sub consultants, and the contractor.

MTA LIRR, East Side Access, New York, NY: As track designer, responsibilities consisted of the coordination of two design packages, the development of special track work details, and staging for Harold interlocking.

MTA LIRR, Third Track, New York City, New York: Track designer responsible for the alignment design of a new third track for the LIRR mainline. This was a planning project that required numerous complicated design and construction staging solutions.

William Norquist, PE

Track - Trackwork

Firm: AECOM

Education

BST, Civil Engineering Technology, Spring Garden College, Philadelphia, PA, 1984

AST, Construction Engineering Technology, Spring Garden College, Philadelphia, PA, 1984

AST, Architecture, Spring Garden College, Philadelphia, PA, 1984

Professional Registrations

Professional Engineer: PA and AZ

Professional Associations

American Society of Civil Engineers (ASCE)

American Railway Engineering and Maintenance-of-Way Association (AREMA)

- AREMA Committee 12 - Rail Transit

Employment History

2000-present: AECOm, Technical Manager - Transit/ Freight/Rail

1984-1986: Consolidated Rail Corporation (Conrail), Buffalo, NY & Springfield, MA

1986-1988: New York City Transit Authority (NYCTA), Brooklyn, NY

1988-2000: Southeastern Pennsylvania Transportation Authority, Philadelphia, PA

Bill Norquist has extensive experience in the design, construction and project management of railroad and rail transit improvements. He is the Task Group Manager for the supervision of the transit production engineers for AECOM's Philadelphia office. His experience covers a broad spectrum, including bridge and track design efforts, track construction and maintenance, station construction and rehabilitation, estimating, scheduling and project controls functions. In his various roles Mr. Norquist has been responsible for the successful completion of projects whose execution required knowledge of and coordination with virtually all aspects of freight rail and rail transit systems. A good deal of his experience came as the owner's representative for Conrail, NYCTA, and SEPTA.

MTA NYCT, Second Avenue Subway Project, New York, NY: Lead Engineer for all alignment and track design for the conceptual and preliminary engineering of the new eight-mile Second Avenue Subway tunnel in Manhattan. In responsible charge of the alignment design team and of all track and alignment-related design for the project, including track geometry and structure, noise and vibration mitigation, storage yard layout, special trackwork design and developing clearance requirements for mined caverns, cut & cover and bored tunnel sections.

Metropolitan Council, Minneapolis Central Corridor Light Rail Transit (CCLRT), Minneapolis, MN: Sr. Track Engineer providing rail transit expertise and quality control in support of the design of a new 11-mile light rail line between Minneapolis and St. Paul, Minnesota. Assisted with the development of track structure design, selection of track structure components, and the development of horizontal and vertical alignment for this new light rail system.

Chicago Transit Authority (CTA) Circle Line Alternatives Analysis Study, Chicago, IL: Track Engineer responsible for developing cost-effective alignment variations for the proposed construction of a new circumferential heavy rail line in Chicago. Both elevated and underground options were reviewed as well as variations to track configurations in interlockings and station areas. The work was in support of a Screen 3 study, which included both HRT and BRT alternatives, from which the CTA will choose a locally-preferred alternative.

CSX Transportation (CSXT) Boston Line Clearance Improvements Project: Project Manager for the development of a Feasibility Study investigating the potential means and estimated cost of increasing vertical clearance at over 50 overhead bridge structures along CSXT's Albany Division between Albany, NY and Westborough, MA for the purpose of providing clearance for double-stack container shipments.

CSX Transportation (CSXT) River Line Capacity Improvements Project: Track engineer assisting with condition assessment and quality control and assurance for the installation of passing sidings along the River Line in the Albany, New York vicinity.

Dallas Area Rapid Transit (DART), Conditional Assessment, Dallas, TX: Lead Track Engineer for a conditional assessment of all track, traction power facilities, maintenance facilities and infrastructure comprising the DART system. The program was an assessment of the existing assets of DART via a representative sampling to assist them in developing a 20-year capital improvement program. Responsible for all track-related property assessment and for making track-specific recommendations and projections based on the findings.

New York City Transit Authority (NYCTA), New York, NY: Track Design Engineer and Project Coordinator for several in-house design efforts for the premiere transit authority in the United States. Responsible for track and alignment design and design team supervision for numerous projects, including two key line extension projects, the 63rd Street Wrap-Up project in Manhattan, and the Archer Avenue Wrap-Up project in Queens, NY.

Kiewit Western Co., Denver Union Station Redevelopment, Denver, CO: Sr. Track Engineer providing rail transit expertise and design support for the realignment of the Denver RTD light rail and commuter rail lines in and around the Union Station in conjunction with the master development of the Union Station site as a multi-modal facility. Assisted with the development of geometric solutions to the realignment, developed construction specifications, and provided quality control for the associated alignment design.

Regional Planning Commission (RTA), New Orleans Union Passenger Terminal Infrastructure Improvement Program, New Orleans, LA: Lead Engineer providing rail transit expertise for a planning effort to establish the operational parameters, conceptual design, costs and benefits, and a phased implementation plan for the development of a multi-modal terminal at the existing Union Passenger Terminal. Specific tasks included an assessment of, and improvements to the track configuration leading to and within the terminal, development of improvements to the adjacent storage yard, and establishing budgetary costs for the phased implementation of those improvements.

Los Angeles County MTA (MTA) Metro Gold Line Eastside Extension, Los Angeles, CA: Sr. Track Engineer responsible for the development of final design-build documents for the extension of the light rail line through East Los Angeles. Provided rail transit expertise in finalizing design for track alignment and special trackwork in ballasted, direct fixation and embedded street track, including the use of noise and vibration mitigation measures.

Valley METRO Northwest LRT Extension, Phoenix, AZ: Sr. Track Engineer responsible for the final design of horizontal and vertical alignments of a 3.3-mile double track extension of the existing light rail system. The design effort entailed coordination with all infrastructure and systems design disciplines, including a contract for the advanced procurement of interlocking materials. The design also required the development of new tee rail design elements in lieu of the authority's girder groove rail standards.

Metropolitan Transit Authority of Harris County, Texas (METRO) METRO Solutions, Houston, TX: Lead Engineer responsible for the design of horizontal and vertical alignments, track structure and yard configurations for a new 12-mile light rail University Corridor. Reviewed and developed modifications to the METRO Light Rail Design Criteria Manual to ensure compatibility of existing standards with the proposed LRT extensions.

Puerto Rico Highway and Transportation Authority, Terminus Station Assessment for Caguas-San Juan Light Rail Line, San Juan, PR: Sr. Track Engineer providing rail transit expertise in support of the assessment of the options for the location of the northern terminus of the proposed light rail connection between the cities of Caguas and San Juan, Puerto Rico.

Kevin A. Pierce, PE

Security

Firm: AECOM

Education

MS, Civil Engineering, Rutgers, the State University of New Jersey, 1991

BS, Civil Engineering, Old Dominion University, Norfolk, VA, 1988

Professional Registrations

Professional Engineer: CA, VA and WA

Professional Associations

American Society of Civil Engineers (ASCE)

American Council of Engineering Companies of California (ACEC-CA), formerly Civil Engineers and Land Surveyors of California (CELSOC)

Construction Specifications Institute (CSI)

Western Dredging Association (WEDA)

Employment History

1988-present: AECOM, Project Director/Program Manager

1985-1986: Virginia Port Authority, VA

1986-1987: R.G. Mooreland Development Co.

Mr. Pierce has significant experience in project management, civil engineering, and construction for large-scale projects, including ports and harbors, dredging and marine facilities, transportation infrastructure, commuter rail, freight rail, site developments and security programs. His experience includes numerous project management positions for design and implementation of capital projects with budgets up to $350 million. After working for a public port authority and private land developer, Mr. Pierce has serviced public and private clients while with AECOM, including transit agencies, private railroads, port agencies, and the U.S. Navy on both the east and west coasts of the U.S.

PANY&NJ, Capital Security Program, New York and New Jersey: Program manager for $15 million contract for implementing highly sensitive and confidential security capital projects at all major port authority facilities including airports, seaports, tunnel and bridges, authority bus terminal, and PATH. Initially, the program was funded at $500 million for the years 2003 to 2007, but it is anticipated that the program funding levels will eventually exceed $1 billion. Mr. Pierce provided management and oversight of all work, including development of project approaches, scope, procurement strategies, preparation of design and contract documents, cost estimates, and construction support services. He played an integral role in the development of the overall approach for delivery of the port authority's largest security project that encompasses perimeter hardening and intrusion detection for all PANYNJ airports, including extensive coordination with the office of emergency management, port authority police, as well as facility operations and maintenance personnel. The work included extensive planning level studies, scope definition and structuring of procurement documents, and development of security systems performance and engineering standards. Other activities have included waterside security, check point hardening, and integrated perimeter security hardening. Mr. Pierce was also responsible for the overall task program management in response to PANYNJ request for services.

PANY&NJ, New Jersey Airports Engineering Services on an "As Needed Basis, NJ: Program manager for $10 million professional services contract to provide engineering services in support of facility capital projects at Newark Liberty International Airport and Teterboro Airport in New Jersey. Responsible for the overall task program management in response to PANYNJ request for stage I through stage IV services for a variety of civil infrastructure and facility improvements. Project capital costs ranged from several hundred thousand dollars up to $3.5 million. Over 50 separate projects have been assigned, including a new stockroom building, terminal B control center, CTA frontage roadway rehabilitation,

and various terminal facility modifications and improvements. Security projects included:

- Hardened Guard Booth Checkpoint Installations at Newark AOA: Security measures included installation of new bulletproof guard booths, VRDs (vehicle restraining device) on entry and exit points, security card credentialing systems and card readers, anti-climb barriers and gates, as well as closed circuit TV installations.
- Anti-Climb Barrier and Patrol Roadway at Newark AOA: planning and design of a new 2.8-mile perimeter security fence and patrol roadway. Infrastructure included installation of power and communication conduits to accommodate CCTV. Tasks included analysis of alternative anti-climb and anti-entry barriers, intrusion detection systems, and alternatives to meet operational requirements.
- South Fuel Farm Anti-Climb Barrier: planning and design of anti-climb barrier and guard booth installation to protect the main jet fuel storage farm.

Sounder Commuter Rail Project, Burlington Northern Santa Fe Railroad (BNSF), Tacoma to Seattle, WA: Project director for advanced planning through final design for commuter rail improvements in the BNSF freight corridor between Seattle and Tacoma. Total design budget was $3.5 million. The project consisted of adding a third and forth track, and relocations/reconfiguration of existing yards, freight leads, and facilities in the 50-mile corridor between milepost 10 north of Seattle and milepost 40X in Tacoma. Total capital cost was over $350 million. Services included track and ROW design, grade crossings, new railroad bridges, modifications of overhead bridges retaining walls, property acquisition, utility relocations, and track design to accommodate proposed commuter rail stations.

Metrolink Commuter Rail Project, Phases I and II, Southern California Regional Rail Authority (SCRRA), Los Angeles, CA: Task manager and design engineer for a new commuter rail system in Southern California. Provided project engineering, and coordination and development of new technical and procurement specifications for SCRRA (who had no standard procurement or construction specifications). Completed bid packages for the initial three capital project construction contracts totaling over $100 million. The project included over 60 miles of new and rehabilitated railroad, new bridges, retaining walls, signal systems, grade crossings culvert and drainage improvements, and other miscellaneous ROW improvements.

Taylor Yard Access Metrolink Commuter Rail Project, Road, Southern California Regional Rail Authority (SCRRA), Los Angeles, CA: Resident engineer for the construction of a vehicular access road under and around active railroad tracks, designed to provide access to Metrolink's central maintenance yard. The work included major earthwork, asphalt concrete and Portland cement concrete paving, curb and gutter, and the installation of a 72-inch storm drain facility.

North Intermodal Yard (NIM) Pavement Analysis, Port of Tacoma, Tacoma, WA: Officer in charge for analysis, design, and construction of track and pavement rehabilitation for the North Intermodal Yard, the oldest (and first) on-dock intermodal yard in the United States.

Pier 400, Port of Los Angeles (POLA), San Pedro, CA: Project engineer responsible for geotechnical concept through final design for a 22 million-cubic-yard hydraulic dredging and landfill project to create 528 acres of manmade land in the Port of Los Angeles. This is the largest single land reclamation project in the United States. The project included extensive retaining structures and foundation remediation studies. The total project was over $300 million for phases I and II. The work included static and dynamic (seismic) analysis of rock dikes, foundations for concrete and sheet pile retaining structures; dredging and disposal scheme development; liquefaction analysis of retained hydraulically-placed landfill; slope stability analysis; 2-D effective stress finite element analyses; quantity analyses; and preparation of conceptual engineering reports and final contract drawings for stage I.

Timothy D. Phelps, PE

Signals/Communications

Firm: AECOM

Education

BS, Electrical Engineering, Rutgers University, College of Engrng, New Brunswick, NJ, 1972

Professional Registrations

Professional Engineer: PA

Employment History

2006-present: AECOM, Electrical Technical Leader

Mr. Phelps has extensive experience directly related to the design, construction, and maintenance of communications and signal systems, the management of communications and signal department employees, and operating experience as a towerman and train ddirector at Pennsylvania Station, New York. Mr. Phelps's experience includes the engineering, installation, maintenance, and test of communications and signal systems, as well as hands-on operating experience. He also has extensive experience in the programming and application of vital microprocessor interlocking controllers, including assisting Metro-North in the development of typical Boolean Logic for new processor applications.

MTA MNR, Communications and Signal Master Plan and Strategy Project, NY: Project manager responsible for directing engineering services to develop a communications and signal (C&S) master plan and strategy report for the overall Metro-North territory east of the Hudson River. In addition, the preparation of contract documents for procurement of a new prewired signal and communications system (incorporating requirements that this system be "PTC ready") to replace and upgrade the existing systems, provide updated specifications, and prepare construction specifications and plans for the installation of new communications and signal cables as a part of this system, for the portion of the New Haven Line between Woodlawn, New York, and CP 229 in Greenwich, Connecticut, and for the portion of the Hudson Line between Croton-Harmon and Poughkeepsie in New York. The project also includes four options that would require the additional preparation of contract documents for new prewired signal equipment procurement, and construction specifications and installation plans for C&S cables, on the New Haven Line (for the specific territories from CP 229 to CP 235, CP 235 to 257, CP 257 to the Division Post, and for the entire New Canaan Branch).

Amtrak, Penn Station Central Control Project, NY: Provided the design of the new vital signal system in Penn Station that replaced the original signal equipment dating from 1910, leading a team of signal designers dedicated to this project. The design project included the four Penn Station interlockings, the new Penn Station control center vital relay room; also included review of contractor-supplied designs for F-interlocking in Long Island City. Provided staging plans for the signal construction activity, and all of the tie-in designs to the then existing Penn Station signal equipment as required to interface the new construction with working signal circuits. Responsible for the overall signal construction activity, including management of dedicated Amtrak signal construction forces. In addition, provided detailed functional specifications for procurement of the PSCC computer control system, heading up a team of Amtrak, LIRR, and consultant personnel.

Participated in the subsequent review of proposals for this control system.

MTA MNR, Upper Harlem Line Re-Signaling, NY: Project manager for the proposed resignaling of Metro-North's Harlem Line from North White Plains to Southeast (formerly known as Brewster North) to provide increased track capacity and operational changes. The project included operations analysis planning, design engineering, specification writing, and tie-in circuit design for one upgraded and three entirely new interlockings; design for a planned future upgraded automatic block signal system throughout the section; and engineering services support during design and construction of the new signal facilities.

MTA MNR/ConnDOT, Radio Coverage, CT: Project manager for a study of radio coverage for Metro-North's New Haven Line in Connecticut. The project included an analysis of existing radio coverage, development of solutions for improving radio coverage, and requirements for the chosen solutions.

MTA MNR, CP 39, Peekskill, NY: Project manager responsible for the engineering, planning, specification writing and tie-in circuit design; and for engineering services during construction for the a new processor-based interlocking designated CP 39 and an adjacent new master location (ML 409); both replacing the original CP 40 at Peekskill on the Hudson Line at mileposts 39.9 and 40.9 respectively.

MTA MNR, CP-112, Woodlawn, NY: Project manager responsible for providing revisions (permanent and temporary) to the signal route and aspect (control line) design and the vital and non-vital signal system to provide for new routing capability (specific over and back moves) and a temporary track cut and throw, required to support track outages necessitated by the rehabilitation of undergrade Bridge 11.90, located within the interlocking at Woodlawn. The work also included complete revision design and related detailing of signal circuit plans, route and aspect analysis, design, and the related program changes to the non-vital processor logic. The signal project was completed on schedule.

MTA MNR, CP 8 and CP 53, NY: Project manager responsible for the engineering, planning, specification writing and tie-in circuit design, and engineering services during construction for the CP 8 and CP 53 signal project, providing for two entirely new processor-based interlockings on the Hudson Line at mileposts 7 and 53, respectively.

MTA MNR, Upper Harlem Line/Brewster North to Wassaic signaling, NY: Project manager responsible for the block design, signal control line design, typical signal logic and circuit design, planning, specification writing, bid phase services, and engineering services during construction for the Upper Harlem Line/Brewster North to Wassaic signal project. This work provided a new signal system from CP 154 (inclusive) at Brewster North to Dover Plains and included the (approximately 5-mile) extension of train service to Wassaic, New York, extending a total of 28 miles. The system utilized electronic track circuits and processor-based interlocking logic for nine new control points to upgrade the originally manual block territory to standard Metro-North Cab Signal without wayside automatic signal operation. In conjunction with the new signal system, the project included the interface to and conversion to overlay track circuits of 17 existing grade crossings, and the provision of grade crossing logic for three additional crossings on the Wassaic Extension. The project also included the specifications for the plowing of signal, communications, and fiber optic cable the entire 28-mile length of the line.

LIRR/Amtrak Penn Station U-Ladder Connection, Pennsylvania Station, NY: Provided a design check of signal circuits for the U-ladder connection in Penn Station. Provided a review of the interface design between the LIRR West Side Yard and Amtrak's "A" interlocking, providing for upgrading all routes to, or from "A" interlocking to vital status, and incorporating appropriate fouling protection between the two interlockings.

Richard T. Barrett

Signals/Communications

Firm: AECOM

Education

BS, Electrical Engineering, Western New England College at Springfield, MA, 1991

Professional Associations

American Railway Engineering and Maintenance-of-Way Association (AREMA)

- AREMA Committee 36
- AREMA Committee 37

Employment History

2005-present: AECOM, Senior Signal Engineer

2005-2007: EGIS Engineering, Inc., New York, NY, Senior Signal Engineer

1997-2005: SYSTRA Engineering, Inc., Signals Engineer

1997-1997: Rail Transportation Systems, Inc., Los Angeles, CA, Field Engineer/signals inspector

1987-1990: Transcontrol Corporation, Bohemia, NY, Assistant Field Engineer/ Detailer

Mr. Barrett has extensive experience directly related to management, design, construction, and in-service testing of train control, and communications for rail transit systems and railroads. This experience includes design of both relay and microprocessor interlockings, as well as designs of cab signal systems. He is experienced in both conventional and predictor-based grade crossing control systems. He has developed signal system training courses, as well as a signal maintenance course used to train and certify signal maintainers.

MTA MNR, Communication and Signal Strategy, NY: Signal lead responsible for developing a communications and signal master plan and strategy report for the Metro-North territory east of the Hudson River. Prepared contract documents for procurement of a new, prewired, "PTC ready" signal and communications system. The documents provided updated specifications and detailed the requirements to upgrade the existing systems. Also prepared construction specifications and plans for the installation of new communications and signal cables for the New Haven Line between Woodlawn, New York, and CP 229 in Greenwich, Connecticut, and for the Hudson Line between Croton-Harmon and Poughkeepsie, New York. The project includes four options that would require additional contract documents for new prewired signal equipment procurement, as well as construction specifications and installation plans for C&S cables on selected segments of the New Haven Line and for the entire New Canaan Branch.

MTA NYCT, Signal Field Support Services, Staten Island Railway, NY: Responsible for resolving wayside signal and CTC office anomalies and upgrades to a newly commission 14-mile double track bi-directional 100 Hz cab signal/speed control system incorporating color position-light wayside signals only at interlockings, positive stop, and a new supervisory control system. Responsible for the developing the signal system training course to certify signal maintainers.

NCTD, Sprinter Rail Project – Oceanside to Escondido, North County District (NCTD), San Diego County, CA: Signal engineer responsible for the block design, signal control line design, crossing design, typical signal vital logic and circuit design, planning, and specification writing for a new 22-mile CTC signal system. The project included the design of 35 highway grade crossing warning systems utilizing HXP-3R2 for primary crossing approach detection. The project is a combination of DC track circuits and audio frequency track circuits for fixed distance approach detection when near-side crossing warning is in effect for DMUs stopping at passenger stations. Crossing control logic utilized vital microprocessor technology. The control logic included preemption and advance preemption indication for interface to traffic signals, and gate pump prevention in multi-track crossing locations.

Richard T. Barrett continued

C&S Engineering Services for West of Hudson, Metro-North Railroad, NY: Signal engineer responsible to provide engineering, design, cost estimation, systems assessment, system recommendations, and CAD drawing as-built services relating to Metro-North's Port Jervis Line in the West of Hudson territory.

MTA LIRR, Wantagh and Amityville Interlocking Improvements, NY: Project manager responsible for providing detailed checks of new signal circuit designs, inter "tie-in" signal circuit revision designs, vital and non-vital software and hardware, and all related circuit plans, and the procurement plans and specifications for huts and cases, and other signal equipment for Wantagh and Amityville Interlocking.

MTA LIRR, Signal Straight Line Re-drawing, NY: Project manager responsible for replacing the entire straight line plans (scaled "road diagram plans") with new AutoCAD drawings on 11-inch by 17-inch bond paper containing one section of track that will align with the adjacent plans, and drawn at 500 feet per inch so the distances can be scaled.

MTA MNR, CP 46 Signal Project, NY: Project manager responsible for the engineering, planning, specification writing, tie-in circuit design, and engineering services during construction for the CP 46 signal project, providing for a new processor-based interlocking and master location on the Hudson Line at milepost 46.

MTA MNR, Interlocking CP 39, Peekskill, NY: Checker responsible for the final project signal circuit check for the new processor-based interlocking designated CP 39, and the adjacent new Master Location 409, both replacing the original CP 40 on the Hudson Line at mileposts 39.9 and 40.9 respectively.

MTA MNR, CP 8 and CP 53 Signal Project, NY: Signal engineer responsible for the engineering, planning, specification writing, tie-in circuit design, and engineering services during construction for the CP 8 and CP 53 signal project, providing for two entirely new processor-based interlockings on the Hudson Line at mileposts 7 and 53, respectively.

MTA MNR, Rehabilitation of Undergrade Bridge 11.90, Woodlawn, NY: Responsible for providing revisions (both permanent and temporary) to the signal route and aspect (control line) design, and to the vital and non-vital signal system in order to provide for new routing capability (specific over and back moves) and for a temporary track car and throw, required to support track outages necessitated by the rehabilitation of undergrade bridge 11.90, located within the interlocking at Woodlawn. The work also included a complete revision design and related detailing of signal circuit plans, route and aspect analysis, design, and related program changes to the non-vital processor logic.

MTA MNR, Upper Harlem Line/Brewster North to Wassaic Signal Project, NY: Signal engineer responsible for the block design, signal control line design, typical signal logic and circuit design, planning, specification writing, bid phase services, and engineering services during construction for two of four of the Upper Harlem Line/Brewster North to Wassaic signal project. This work extended from CP 154 (inclusive) at Brewster North to Dover Plains, and included the recent (approximate 5-mile) extension of train service to Wassaic that has been in revenue service for about one year. This signal project extended 28 miles, and utilized electronic tract circuits and processor-based interlocking logic for nine new control points to upgrade the originally manual block territory to standard Metro-North cab signal without wayside automatic signal operation. In conjunction with the new signal system, the project also included the interface to and conversion to overlay track circuits of 17 existing grade crossings, and the provision of grade crossing logic for three additional crossings on the Wassaic extension. The project also included the specifications for the plowing of signal, communications, and fiber optic cable the entire 28-mile length of the line.

PATH

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RFP #19980

Section F: Technical Approach

Introduction

The Port Authority of New York and New Jersey (the "Authority") has initiated an ambitious ten-year, $26-billion Capital Program which includes some $2.1 billion in project costs for improvements on the PATH Rapid Transit System (PATH), owned and operated by the agency. The successful implementation of the PATH Program will require ongoing close coordination among a number of entities, including PATH Operating and Maintenance Divisions, Engineering Department Design and Construction Divisions, PATH Capital Program Division, and the Agency's Capital Security Division.

In order to assist the Authority in determining how best to advance the PATH Capital Program, the acting Logistics Planning Group has prepared a resource-loaded schedule for projects in the Capital Program based on information available from PATH and Port Authority staff as of early 2009. This led directly to the focus on developing and implementing new management processes and procedures, required to: enable long-range planning and master scheduling of all PATH facility forces; meet equipment needs as well as track rights to support the Capital Program through year 2016; provide ongoing system repair and maintenance work, and various other construction activities. The Logistics Planning Group coordinates with PATH's Transportation, Way and Structures, and Power, Signal and Communications Divisions, as well as with project managers from the Port Authority's Construction Management Division and the World Trade Center project, preparing master monthly and weekly track usage plans, identifying and mitigating potential conflicts, and monitoring the day-to-day implementation of scheduled field activities. Other responsibilities have included oversight of the Harrison Yard soil removal; planning for new rail storage facilities at Harrison and D yard; construction phasing oversight for the signals program; coordinating track usage and facility force support for the tunnel hardening program; and construction phasing support and planning for the WTC projects that require PATH support. In keeping with the overall program management objectives, the group also furnishes daily status reports each morning to the PATH Project Manager and to the PATH Assistant Director of Capital Programs, as well as monthly reports to the Executive Director of PATH and to the PANYNJ Executive Director.

Scope of Work

The AECOM Team will provide the core staff for the Logistics Planning Group, which will be located at PATH's offices at the Journal Square Transportation Center (JSTC) in Jersey City, NJ,

reporting directly to Mr. Wilfredo Guzman, PATH's Acting Program Director for the PATH Logistics Planning Group, from 2010 through 2014: providing the Authority with oversight and analyses in the planning, coordinating, scheduling and monitoring of the logistics planning efforts required for the delivery of the PATH Capital Program, and advising PATH of project coordination issues and project delivery status in order to ensure the timely delivery of the PATH Capital Program elements.

As part of this assignment the AECOM Team will help to develop and monitor a comprehensive plan for the delivery of PATH's Capital Program (hereinafter called, the '"Program") so that resources required to that end can be identified, procured as needed, allocated, and deployed in a timely and efficient manner. This shall include, but not be limited to: incorporation of detailed, resource-loaded construction schedules for all major Program elements into an existing, draft Master Schedule, and ongoing maintenance of same; the ongoing coordination of requests for "track access rights"

to provide early identification and coordination of potential conflicts among the Program elements and PATH's ongoing repairs, system maintenance, and operations; the identification of any additional resources that may be required to support delivery of the Capital Program; and, the ongoing monitoring of progress on the Program elements to better plan for future work and staffing support. These services shall generally fall into one of these categories:

Ongoing Logistics Planning Support - Provide oversight services and/or conduct the analyses required in connection with delivery of the Program elements. These responsibilities may include, but are not limited to: the evaluation and coordination of resources needed to support delivery of the Capital Program; the identification of any additional resource(s) that may be needed; and, the management of the provision of the additional resources as requested by the Authority.

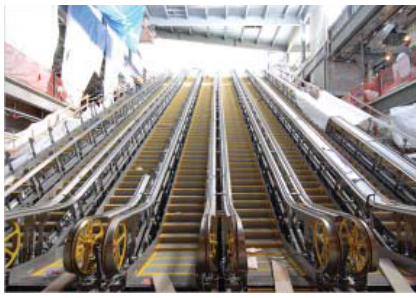
Detailed Project and Master Program Scheduling - Provide oversight services and/or conduct the analyses required in connection with elements and studies that may be undertaken by the Authority. These responsibilities may include, but are not limited to: the coordination of detailed construction schedules for the various Capital Program elements; the "resource-loading" of construction schedules to address PATH facility forces needed to support the intended construction as well as the PATH tunnel or track areas that will be affected throughout the construction; and, the development and maintenance of an overall "Master" schedule for the Capital Program construction.

Related Support Services - Provide planning and coordination services to assist PATH and Project Management staff in determining the potential impacts to their work as they identify and incorporate the logistics involved in project delivery, as well as in advancing initiatives aimed at improving the overall delivery of the PATH Capital Program. Some of the potential services may include, but are not limited to: estimations of costs for PATH facility force support; management of specific studies required to support the PATH Capital Program, including planning studies aimed at establishing the scope of Program elements; preparation of detailed construction schedules; and, provision of personnel to oversee field work when Authority personnel are not otherwise readily available and personnel are required to ensure timely delivery of Program elements.

Logistics Planning Group Tasks and Activities

Task A: Coordination of PATH Track Access Requests

1. Solicit monthly track access requests for all major projects and maintenance activities
2. Review and coordinate monthly track access requests into a single track-usage plan
3. Participate in weekly track access rights meetings conducted by PATH's Transportation Division aimed at finalizing upcoming work plans and resource allocations
4. Update a monthly track-usage plan to reflect changes that arise before and during implementation
5. Document and track all track access requests received by the LPG in an activity log
6. Solicit daily progress reports for updating of activity log



Task B: Coordination and Evaluation of Schedules

1. Solicit design and construction schedules from all stakeholders involved in the delivery of the Capital Program
2. Conduct detailed project construction scheduling, including identification of necessary resources to be provided by PATH (particularly staffing and track access rights)
3. Analyze proposed schedules to identify support resources needed for the delivery of the Capital Program, and potential conflicts with other proposed work

4. Generate and maintain a Master Schedule of proposed construction on the Capital Program. This might also entail assessing the impacts of the revised schedules on available and planned resources

Task C: Evaluation of PATH Facility Force Requirements

1. Analyze PATH staffing requirements based on proposed schedules of activity to generate timely identification of required staffing modifications
2. Estimate the staffing and cost for PATH facility force support provided for projects undertaken by outside contractors
3. Estimate the staffing, timing, and cost for construction activities performed by PATH facility forces (e.g., the replacement of turnouts, rail, etc.)
4. Monitor PATH staffing support and staffing levels to determine modifications that may be required to support the timely completion of the Capital Program
5. Assist the Authority's Management and Budget and Human Resources Departments in assessing staffing changes needed and facilitate their efforts in procuring required employees, to support delivery of the Capital Program

Logistics Planning Group – AECOM Team Members

As Senior Planning Manager, Michael Marino will be responsible for the following:

- Supervise and direct day-to-day Logistics Planning Group staff resources
- Oversee facility force planning
- Interface with project or construction managers, PATH personnel and with third party contractors
- Manage the acquisition of data needed to evaluate the adequacy of available and planned resources and how they might be most effectively utilized
- Ensure timely completion of analyses and reports
- Advise PATH management in the planning of facility force personnel relating to PATH's operating needs and requirements supporting the Capital Program
- Manage other project consultant and subconsultant efforts, as may be requested, within the schedules and budgets approved by PATH

As Plan Coordinator, Steve Mathew will be responsible for the following:

- Gather and analyze requests for resources and generate recommendations for addressing requests
- Actively solicit information, as required, from all stakeholders regarding project progress and timing
- Evaluate proposed changes to project schedules for their impact on other planned work and on available and planned resources
- Manage the acquisition of data regarding actual performance of work and utilization of resources for comparison against plan
- Maintain and update work request database

As Lead Field Coordinator – Frank Cienski will be responsible for the following:

- Conduct daily reviews of planned work and preparedness by all parties for the work
- Provide early identification of problems so that resources can be shifted to other work as appropriate
- Conduct audits, as necessary, of field work to assess production rates and estimate forecasts for completion
- Acquire and maintain all relevant data regarding work progress to assess progress of work against plan, including field audits, inspection reports, statements of completion

As Lead Scheduler – Murali Puthayarambath will be responsible for the following:

- Develop and maintain facility force Master Schedule for all facility force activities
- Coordinate with PATH personnel in construction planning and cost estimating, utilizing Primavera Project Planner (P6)

- Prepare resource-loaded critical-path-method (CPM) schedule and periodic updates of the CPM schedules and technical analysis
- Provide a facility force schedule and monthly progress update to support the development of the facility force budget for all design/construction activities
- Assist the Cost Estimators and Cost Control Manager, PATH Management, and Project Managers in preparing facility force estimates for all the project phases

As Lead Cost Estimator – Sukhdev (Dave) Sharma will be responsible for the following:

- Maintain and update facility force wage rates
- Estimate facility force costs based on a PATH-defined activity matrix for integration into bid documents
- Perform reviews of contract documents on an as-needed and upon-request basis to determine duplication of third party and facility force work
- Provide cost-estimating services for value-engineering and/or risk analysis reviews

As Cost Control Manager – Trupti Kalbag will be responsible for the following:

- Maintain and update facility force budget databases
- Forecast facility force cost for proposed construction activities
- Evaluate accrual levels and earned value calculation for facility force work for PATH on an as-requested basis
- Advise Project Managers on facility force cost projections for monthly cost reports and annual budget projections

Management Tools will include detailed databases and spreadsheets to document and manage track access requests and prepare weekly and monthly plans, facility force budgets and controls.

Task D: Logistical Support

In support of the Logistics Planning Group, additional services are anticipated to be required on a "Call-In" type basis. These services shall include but not be limited to:

1. Management of planning studies, investigative analyses, etc. (such as wheel-rail interaction studies)

2. Assist in the preparation of specifications, standards, contract language, etc.
3. Preparation of presentations, graphics, and other informational materials for internal and external use in presenting the status and progress of the PATH Capital Program
4. Provision of field personnel to support the timely delivery of the Capital Program. These personnel my include, but not be limited to, Employee-In-Charge (EIC) Services

Task E. Program Deliverables

AECOM will deliver schedules; executive summaries; periodic, miscellaneous, and ad hoc reports; and presentation material for executive staff, for the public, and for others, as required to meet the objectives of this assignment.

PATH

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RFP #19980

Section G: Management Approach

AECOM has structured a Management Plan that focuses the resources and expertise of our team toward the successful delivery of multiple, concurrent, planning tasks. Our team is organized to respond to a wide variety of assignments—and has the resources, expertise, and most importantly, the experience working with the Port Authority to support and to advance the capital improvement programs at the Port Authority's four airports.

AECOM prides itself on our management systems and approach to project management in on-call assignments. In this section, we will outline our approach toward successfully managing and performing on this assignment, including:

- Team Organization
- The AECOM Team
- Managing "As-Needed" Contracts
- Project Controls

The AECOM team possesses unparalleled resources and capabilities to support the Port Authority on this assignment because:

✓ We have a long history of providing passenger railway and mass transportation services in the New York Metropolitan Area—properties that we have worked on include PATH, NYC Transit, Metro-North, LIRR and NJ TRANSIT.

✓ We have a large team of railway experts locally in the New York Metropolitan Area.

✓ We have provided similar services for similar transit operators across North America.

✓ We understand how to develop planning solutions that sustain a high level of railway operations during construction to minimize impact on the traveling public.

✓ We know the Port Authority's personnel and procedures.

✓ We are committing – from project start to completion – the very best staff from each firm on our team to this assignment.

In addition, we should especially like to highlight the following:

✓ We understand how projects relate to achieving the agency's strategic vision for the region and, more specifically, the Port Authority Trans-Hudson railway system. We understand that frequently projects arise out of a particular need, physical or operational requirement, etc. at a facility. This knowledge enables our team to take a holistic approach to providing services.

✓ We are sensitive to the unique roles and responsibilities and the relationship among PA Departments and the PATH Operating Departments and will work in such a

manner as to meet the objectives of the Port Authority while considering the operations of the PATH system.

✓ We understand the requirements of the FRA and have extensive experience working with the agency. Similarly we have experience working with FTA, Amtrak, NJ TRANSIT, and MTA/NYCT.

✓ From our extensive project experience on North American passenger railway systems, we know the infrastructure (track, ROW, signals, communications, vehicles, shops, yards, third rail, utilities, fiber optics, stations, traction power, etc.). AECOM Technologies is ranked Number 1 by ENR in Transit.

✓ Not all projects will require a large consultant team. We are equally experienced working on small projects with a small staff.

✓ We are world and national leaders in the area of sustainability. We bring this understanding and sensitivity to each task assignment.

Team Organization

The AECOM team is proposing a management structure for this "as-needed" assignment that has at its core a simple and streamlined project management approach. The keys to our management approach are control, communication, and coordination—along with single source of responsibility. The management structure of the AECOM team has been specifically configured to have a truly seamless integration with the Port Authority staff. An organization chart depicting our proposed Management Team for this assignment appears on the following page.

Our team has been organized to ensure that we can simultaneously staff and manage multiple planning efforts in various stages of completion. We have designated a strong Project Manager that will work in AECOM's home office. He will be supported by the technical support of Task Managers that will work in either Port Authority or PATH facilities, or AECOM offices depending on the assignment. We are extremely comfortable with this type of organization, as AECOM has been doing it successfully for over 75 years. The cornerstone of this organization is a strong project manager supported by experienced task managers and technical support staff.

Integration of On-Site Staff

It is important to us not only that our service is successful, but also that our assigned staff members are excited about their new roles. Our staff must be fully integrated not only into the AECOM organization, but also into the Port Authority organization as well. This is important in ensuring that we are truly able to function as an "Extension of PA Staff". Based on the success of the ongoing contract, it is apparent that the Authority and AECOM, working together, have been very successful in integrating our Project Managers and Support staff. We must also ensure our staff members understand their importance in our own organization. This is accomplished by ensuring that communication with and about the firm is maintained on a regular basis. Gary Matz will serve as the primary liaison with our staff. Gary Matz is available to immediately respond to the AECOM staff needs, as well as acting as liaison with the Port Authority on issues such as:

- Coordination with on-site staff and the Authority
- Coordination of AECOM and Port Authority timesheets
- Distribution/Approval/Submission of Monthly Task Order invoices
- Focal point for communications between main office and on-site staff
- Billing Issues Resolution
- Guidance to staff on Authority Project Management procedures and standards

To keep assigned staff updated on the AECOM organization, periodic lunchtime meetings will be held to discuss current AECOM issues such as Human Resources

updates, company policies and procedures, or simply to discuss current corporate activities.

Logistical Planning Support

Our logistics planning support staff have been selected based on their proven capabilities in the areas we believe are necessary to carry out the planning and oversight goals of this assignment. They will be called upon as needed and report directly to the senior planning manager, Michael Marino.

Engineering Support

Our engineering support staff has been selected based on their proven management capabilities as well as their strong technical background in their respective areas. Once a technical task has been authorized, with an agreed scope, budget, and schedule, our project manager, Gary Matz, will be the main liaison between the Port Authority designated manager and the AECOM Team. Mr. Matz will be responsible for managing the day-to-day operations of the engineering support staff, calling upon the resources of our technical departments and subconsultants.

The AECOM Team

The AECOM Team fully understands the need to integrate existing systems and infrastructure into the planning and operations of the PATH system's current and future facilities.

AECOM is the prime consultant responsible for project management and controls, as well as providing technical disciplines such as civil, structural, track, signals, communications, architecture, security, environmental, geotechnical, and information systems. Strategic Financial Planning for Transit and Highway Agencies

- Ridership/Traffic/Revenue Forecasting for Transit and Highway Projects
- Travel Demand Forecasting Model Development
- Market Research Analysis
- Operating and Maintenance Costing
- Intercity High-Speed Rail and Maglev Planning
- Economic Impact Analysis and Development Studies
- Management Consulting
- Innovative Finance and Funding
- Asset Management

MBE/WBE Participation

Furthermore, AECOM is committed to meeting or exceeding the MBE/WBE goals established by the Authority for this assignment. We pride ourselves on our record of providing meaningful roles for our MBE/WBE partners in all our previous contracts and we are committed to that same goal on this assignment. We have carefully selected our MBE/WBE team members for this assignment based on our past work with them and their relevant experience on other projects with the Port Authority. They are as follows:

- JCMS (MBE) – JCMS provides consulting services in project controls and cost estimating. They will provide scheduling and capital cost estimating, as needed, in support of the Logistics Planning Group.
- PACO (MBE) – PACO provides consulting services in configuration management. They will provide services in configuration management, as needed, in support of the Logistics Planning Group.
- RCI (WBE) – RCI provides consulting services in program management, project controls and planning. They will provide project controls and planning, as needed, in support of the Logistics Planning Group.

Project Offices

The team project office will be headquartered at the New York City office of AECOM at 605 Third Avenue, and will be supported by AECOM's 20 Exchange Place, NYC, and Piscataway and Newark, New Jersey offices, which are located just a short distance from Newark International Airport and the Authority's offices at Gateway and Park Avenue. These locations will allow our project manager, Gary Matz, and his key staff to

provide highly responsive service to the Port Authority.

Managing "As-Needed" Contracts

The services to be performed for this contract will be conducted on a Task Order Basis. The AECOM Team's management philosophy and approach to conducting task order assignments has been developed based on our extensive experience managing "As-Needed" Agreements for the Authority, as well as for numerous other transportation agencies. AECOM, in particular, has direct relevant experience performing planning and transportation engineering assignments for the Authority's Engineering, Technology Services and CPM Departments. We are currently performing diverse "As-Needed" assignments for the Authority's Program Management and Engineering Departments, as well as for numerous other clients, some of which are noted below.

- PANYNJ "As Needed" EWR & TEB Design Services Contract
- PANYNJ "As-Needed" 2002-2006 Program Management Contract
- PANYNJ "As-Needed" LaGuardia Airport Planning & Program Management Contract

- PANYNJ Marine Engineering "On-Call" Design Contract
- PANYNJ Structural Engineering "On-Call" Design Contract
- PANYNJ Civil Engineering "On-Call" Design Contract
- PANYNJ Technology Services "On-Call" Agreement
- MTA Bridges and Tunnels Construction Partnering Services – All Facilities
- MTA Bridges and Tunnels "As-Needed" Design services
- MTA Metro-North Railroad – General Engineering Contract
- NYSDOT Regional Design Service Agreements
- NYSDOT Term Agreement for Construction Inspection
- MTA NYC Transit – Indefinite Quantity Contract for Miscellaneous Design
- MTA LIRR System-Wide Engineering Contract

Management of an assignment means more than just identifying the task manager and supervising the work. We fully understand and expect that the Authority will want to know the status of individual assignments on a regular basis. Within AECOM, it is not sufficient or acceptable for a project manager to report to senior management that he or she thinks that the project is on budget and on schedule. Rather, we require specific project control information on a regular basis. The Authority should expect the same level of accountability. We accomplish this as follows:

- On a monthly basis, or more frequently if necessary, we will send to the Authority a detailed progress report with information on the work, budget and schedule for each assignment. This approach is currently being used by our team on the EWR & TEB Design Services Contract and has proven to be an effective tool for managing multiple tasks.
- Scope of work information will include items such as: work accomplished during the previous month, work anticipated being accomplished in the upcoming month, and problems encountered in the performance of work (and suggestions on how the problems can be overcome).
- Budget information will include dollars expended this month (including salary costs and direct expenses), cumulative dollars expended and an estimated budget to complete the assignment. AECOM's Project Management Information System tracks, on a weekly basis, staff labor costs associated with an individual task of a particular assignment.
- Schedule information may be displayed in a bar chart or a Primavera schedule, depending upon the complexity and duration of the assignment. The key points to be addressed are: where is the assignment in relation to the original schedule? Is it ahead of, on, or behind schedule? If it is behind schedule, what are the reasons and what steps will our team take to bring it back on schedule?

The AECOM management philosophy for providing services on an "As-Needed" basis includes many essential elements. In summary, our approach to work order contracts has been developed and refined from our extensive experience to ensure that assignments are completed in a timely, cost-efficient manner – and to standards of the highest quality.

Typical Procedure for Responding to Task Assignments

Our process for responding to assignments is summarized in the following steps. The objective is to respond quickly with a proposed scope of services and budget that meets the Port Authority's needs.

Initial Notification: Our project manager, Gary Matz, will receive the initial notification from the Authority and select a well qualified task manager to lead the assignment. The task manager for the relevant program element circulates the

task order request among team members for review.

Initial Meeting/Field Reconnaissance: Depending upon the level of complexity of the assignment, a meeting is scheduled with participating team members and the Authority to discuss the project scope, schedule and level of effort. If appropriate to the task order, a field reconnaissance with the Authority's project manager will be conducted.

Draft Scoping Document: The AECOM team prepares a draft scoping document, which includes a scope of work, schedule, deliverables, and budget. The document is submitted to the Authority for approval within three business days.

Notice to Proceed: The scoping document is revised as required, and AECOM is awarded a Notice-to-Proceed. We authorize team members to commence work in accordance with the agreed to schedule and budget and quality assurance procedures.

Project Controls

The AECOM Team understands the criticality of providing management support to the Port Authority's project manager and providing that person with timely and accurate information on the status of each of the various tasks undertaken under this assignment. The Project Management Systems that we propose to use are based on current project management procedures employed by the Port Authority that have been developed, in part, by AECOM. These procedures will facilitate how management can make decisions in a timely manner, identify and resolve potentially critical issues before they take root, and provide an overall Quality Control procedure.

We believe computer programs, printouts, plots, forms, and data manipulations do not constitute project control—they are merely the tools that must be used by responsible, pro-active managers to help them in the decision process that will control the project and produce the desired conclusion. Real project control is the response of such managers in taking timely action.

Management Control Systems

The project controls for this assignment must encompass all levels of the total assignment—from inception through project completion. The Project Control System will be based on the Port Authority's Procedures and Systems. AECOM, the team member responsible for project administration, has developed a successful, interactive and on-line project controls secured plan that has a multi-level approach and integration. The initiation of a successful control approach over cost, schedule, and the technical aspects of a project requires the development of a sound Program Management Plan and control process that is practical and readily implemented. This is a challenge that requires the experience of our team, skills obtained on similar, successful "call-in" undertakings, plus a proven management and control methodology and approach.

Project Management Plan

The Project Management Plan (PMP) is the primary tool used to disseminate planning and management/control information to all program participants and all levels of management. The PMP explains the control systems and related plans, which identify interrelationships and hierarchical nature of meetings, reports, documents, and computer systems.

Scope Change Management

Scope is the most difficult element to control since there is no quantitative data to compare to the baseline. A phenomenon sometimes referred to as "scope creep" can occur. In some instances, the creep is well intentioned and would, if implemented, enhance the project in terms of the user or the operator.

If the enhancement can be accommodated within the established schedule and budget baselines, it probably should be included. However, while each item may be modest in terms of its impact on the total project, the cumulative effect can cause significant cost increases or schedule impacts. Therefore, while scope creep is often difficult to resist or even detect, scope control will be a serious mission of our project management.

Quality Assurance/ Quality Control

The cornerstone of the AECOM management plan is quality. AECOM and the Port Authority have a long and successful relationship based on the fact that our team consistently delivers products of the highest quality.

AECOM, the lead team member responsible for quality assurance, has developed and refined successful procedures, controls, and reporting methods, which have become the AECOM Quality Management System. The prime objective of the guidelines is to organize the AECOM resources to provide services in a manner that conforms to the contractual and regulatory requirements. These quality assurance controls will be utilized on this "call-in" assignment.

The AECOM quality assurance organization functions at the Corporate, Unit, and project levels. At the Corporate level, the Quality Assurance (QA) Guidelines are developed, maintained, and updated by the Office of Professional Services. At the Unit level, the office manager and the technical director develop and maintain a departmental organization and a qualified staff well organized for the effective reference standards, computers, software, etc., which are necessary for the work.

At the Project Management level, the team consists of both the project officer and the project manager. They monitor managerial activities, overall progress of the project, general conformance to established office procedures, and specific client requirements. It is the project officer's responsibility to ensure that project assignments are implemented in accordance with the contract agreements and to make available any resources necessary for the successful completion of the project. The project manager is responsible for all technical and administrative aspects of the project. Gary Matz will interface directly with the Authority and will be responsible for establishing and maintaining the controls necessary to ensure completion of the assignment on time and within budget, to the Authority's satisfaction.

All subconsultants will have to complete their assigned task in accordance with the AECOM Project QA Plan. All subconsultants' work will be submitted to AECOM with adequate time for QA review and incorporation into the submissions.

Schedule Control

In today's project environment, time is of the essence. A project schedule serves three functions. First, it establishes a benchmark to monitor the progress of the project. Second, during the early stages of the project, it forces the team to plan the execution of every activity of the project. Finally, it establishes all the internal and external restraints.

Our philosophy for schedule preparation is to develop a multi-level schedule and establish targets or milestones against which to measure progress. To implement this philosophy, a Work Breakdown

Structure (WBS) will be developed to detail, track, and report at different levels of the project.

The Detailed Schedule provides detailed information for all the project planning activities and interfaces between the specialty subconsultants.

During the project duration, the four (4) week "look ahead" schedule will be reviewed bi-weekly to ensure the schedules are met. The project manager will review the schedule to ensure the work is progressing according to the baseline schedule. Later, the Master Schedule will be updated to reflect the progress of the work as per the latest update of the Detailed Schedule.

Budget Management

The primary purpose of the budget is to provide a project management tool for monitoring decisions as they are made, with the knowledge of their cost and schedule impacts. The Master Budget will summarize all costs for a particular task and for overall tasks assigned under this contract. The Master Budget is broken into discrete and accountable categories. To achieve this, a WBS will be developed to detail, track, and report at the different levels of project management.

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

H. Subconsultants

Section H: Subconsultants

The AECOM Team

AECOM is the prime consultant responsible for professional planning, scheduling, and engineering support services. AECOM will be supported by an excellent group of subconsultants, each chosen for their specific prior participation on Port Authority projects and programs and for their specific technical expertise.

We have worked together with all of our main subconsultants before on major rail capital programs, and all members are familiar with Port Authority standards and procedures. Supporting AECOM as part of the team are our speciality subconsultants JCMS, PACO Group and Radin Consulting, Inc.

JCMS

JCMS is a registered MBE firm, which has been providing program and project management services to the rail industry for over 24 years. This includes projects for numerous agencies such as PATH, Amtrak, FTA, NYCT, MNR, LIRR, NJ Transit, SEPTA, DRPA and MBTA. JCMS has provided scheduling on the previous PATH Planning, Oversight and Related Services on an "As-Needed" basis during 2008-2010. In addition, JCMS has also supported Amtrak's Fire & Life Safety at the program management level in New York, and the Capital Improvements Program in Philadelphia over the last six years, providing planning, scheduling and document control services. JCMS has significant expertise in the area of project controls, delay claim analysis, cost estimating, resident engineering and construction inspection, having provided these services on over 200 rail projects. Below are some of their representative projects:

- PANY&NJ, PATH Performance of Expert Planning, Oversight & Related Services 2008-2010 (size: various)
- PANY&NJ, On-Call Project Delivery Contract (size: various)
- PANY&NJ, CM Support Services (size: various)
- Amtrak Capital Improvement Program – NE Region (size: $460M)
- Amtrak Fire & Life Safety Program (size: $500M)
- MTA East Side Access (size: $3.5B)
- MTA South Ferry Terminal (size: $124M)
- NYCT Second Avenue Subway – Phase 1 (size: $3.4M)

PACO Group, Inc.

PACO Group, Inc. (PACO), is a registered MBE firm with a full service multidiscipline program and construction management consulting services. Since its inception, PACO has functioned exclusively as an owner's (agency) representative, typically as an extension of a client's in-house staff, assisting during project planning/initiation, design development, bid/award and construction phases of a project or program. PACO's qualifications and experience include expertise in the areas of capital

program oversight, project controls and related software systems, and configuration management for major infrastructure, transportation and railroad facilities, and urban designs and redevelopment projects.

For over twenty years, PACO has successfully provided a wide variety of technical and professional services in the area of project delivery to assist public agencies in managing their capital improvement projects and programs. These services have included schedule management, cost management, cost estimating, configuration management, document and records management, contract administration and change management, inspection and office engineering, and project management systems design.

Below are some representative projects:

- Tri-County Commuter Rail Authority (Tri-Rail), Double Track Corridor Improvement Program. Provided: configuration management, contract change management, cost estimating, scheduling, and construction inspection.
- National Highways Network – Trinidad. Provided: configuration management.
- Phoenix Sky Harbor – Automate People Mover System. Provided: configuration management, cost management, records management, and document control.
- Port of Barcelona. Provided: configuration management.
- Tren Urbano – Heavy Rail Transit System. Provided: configuration management, contract administration, cost control, document management, QA/QC, claims resolution, scheduling, and change control.

Radin Consulting, Inc. (RCI)

RCI is a registered WBE firm specializing in transportation and environmental planning and design services. In addition, RCI prepares environmental and engineering documents and facilitates their review and approval by state and federal regulatory agencies. RCI also conducts public participation activities such as public hearings, scope meetings and information forums.

In addition, RCI provides construction management oversight to ensure compliance with project specifications. For the past eight years, RCI has held the position of handling, reviewing and managing multiple capital projects for NJ Transit and the New York City Transportation Authority. Below are some of their representative projects:

- NJ Transit, Hudson Bergen Light Rail Line and Newark Elizabeth Light Rail Link, Draft and Final EIS document.
- The Fulton Street Transit Center – EIS and Preliminary Engineering.
- T.H.E. Tunnel project, where they are currently part of the final design and construction management team.

Our subconsultants' cost information (noting their multipliers, hourly rates and terms and conditions) can be found in Section C: Cost. Detailed project experience and qualifications of our subconsultants' proposed personnel can be found in Section E: Staff's Qualifications and Experience.

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

I. M/WBE Participation

Section I: M/WBE Participation

THE PORT AUTHORITY OF NY & NJ

Certified

by

Small Business Programs

JCMS, Inc.

Certificate PA-19889

THE PORT AUTHORITY OF NY & NJ

Certified

by

Office of Business & Job Opportunity

PACO Group, Inc.

Certificate PA-557

THE PORT AUTHORITY OF NY & NJ

Certified

by

Office of Business & Job Opportunity

Radin Consulting, Incorporated

Certificate PA-22280

AECOM is committed to meeting or exceeding the M/WBE goals established by the Authority for this assignment. We pride ourselves on our record of providing meaningful roles for our M/WBE partners in all our previous contracts and we are committed to that same goal on this assignment. We have carefully selected our M/WBE team members for this assignment based on our past work with them and their relevant experience on other projects with the Port Authority. They are as follows:

- JCMS (MBE) - JCMS will be providing cost estimating services.
- PACO Group, Inc. (MBE) - PACO will be providing configuration management services.
- Radin Consulting, Inc. (RCI) (WBE) - RCI will be providing project (cost) controls and planning studies services.

Details on their qualifications can be found in the previous section, Section H: Subconsultants.

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

J. Affiliates

Section J: Affiliates

AECOM Services, Inc.
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

AECOM, Inc.
For Profit
FEIN: [redacted]
Address: Two Technology Park Drive, Westford, MA 01886

EDAW
For Profit
FEIN: [redacted]
Address: 150 Chestnut Street, San Francisco, CA 94111

Economic Research Associates
(California)
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Earth Tech/Archer Western, LLC.
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Earth Tech WE Holding, Inc.
(Delaware)
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Cass Water Engineer, Inc.
(Delaware)
For Profit
FEIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

Section K: Contract Exceptions

Per Article III SUBMISSION REQUIRMENTS of the subject RFP AECOM respectfully requests the Port Authority of New York and New Jersey to consider the following revisions to the Contract Terms and Conditions:

1. Article 2 – Our services are to be performed under the standard "time is of the essence", which does not exclude delays beyond our control. We suggest inserting the following to the end of this article: "Notwithstanding anything in this Agreement, Consultant, including Consultant's subconsultants, if any, shall not be responsible hereunder for any delay, default or nonperformance of this Agreement, if and to the extent that such delay, default or nonperformance is due to any cause beyond the reasonable control of such party."

2. Article 15 - Since the Authority will own all documents or materials prepared or compiled under this contract, as well as have the right to use or permit such documents and materials for any purpose it sees fit, the following language is requested regarding such future use :"Any reuse of Consultant prepared documents, except for the specific purpose intended hereunder, will be at the Authority's sole risk and without liability or legal exposure to Consultant or its subconsultants." after the first sentence.

PATH

Proposal for

The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

RFP #19980

Section L: Conflict of Interest

AECOM does not have any conflicts of interest to state at this time for the Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH), RFP#19980.

About AECOM

AECOM (NYSE: ACM) is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 45,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in more than 100 countries and had revenue of $6.1 billion during its fiscal year 2009. More information on AECOM and its services can be found at www.aecom.com.

AECOM
AECOM 605 Third Avenue
New York, NY 10158

www.aecom.com

Proposal | RFP #19980

Performance of Expert Professional Planning, Project Management and Related Services

AS REQUESTED ON A CALL-IN BASIS DURING 2010-2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

JANUARY 14, 2010

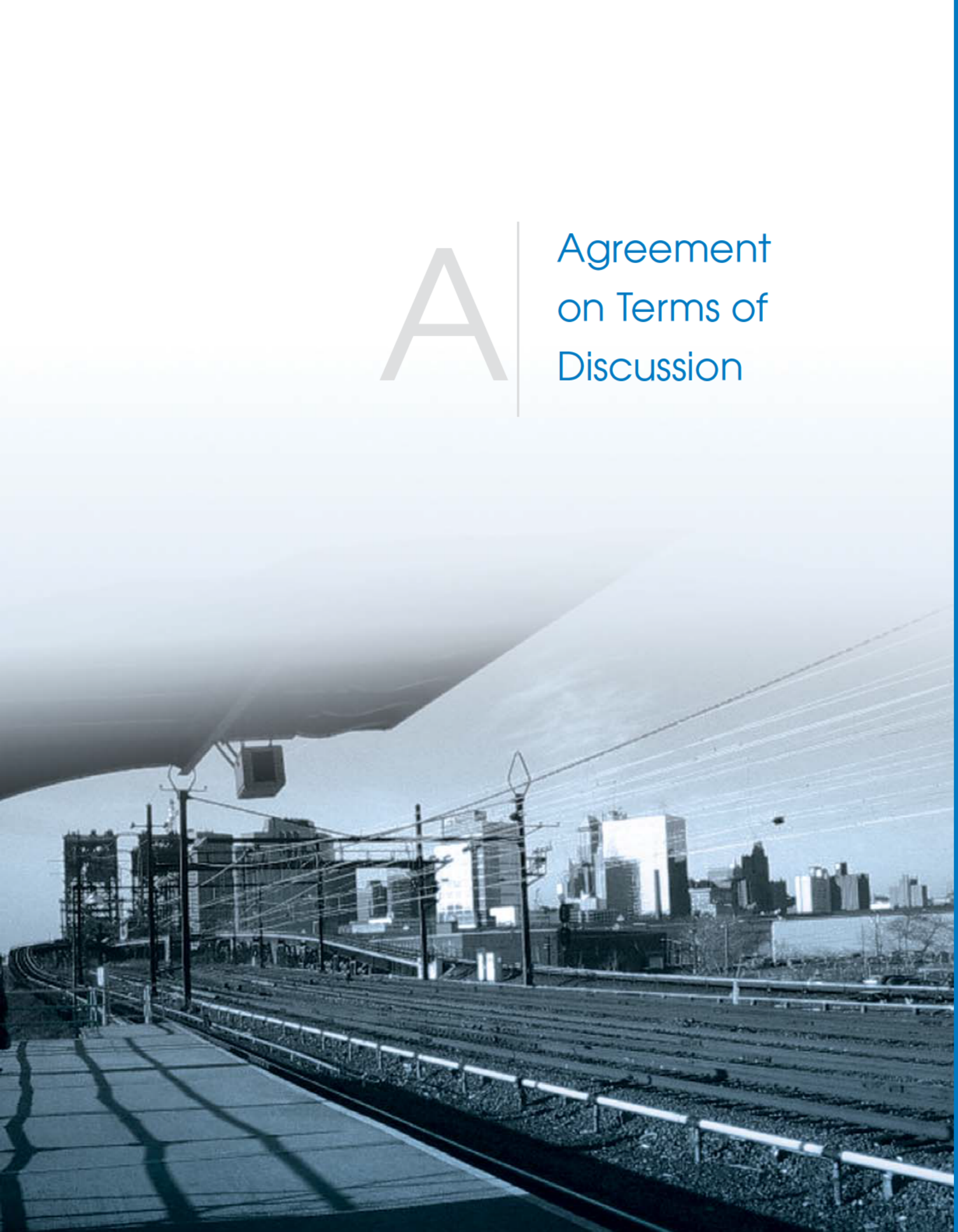
Submitted by:
Parsons Transportation Group of New York, Inc.
PARSONS

Submitted to:
THE PORT AUTHORITY OF NY & NJ

Table of Contents

SECTION A:	Agreement on Terms of Discussion	
SECTION B:	Transmittal Letter	
	Attachment C - Company Profile	
SECTION C:	Cost	
SECTION D:	Firm Qualifications and Experience	1
SECTION E:	Staff's Qualifications and Experience	12
	Resumes	
SECTION F:	Technical Approach	15
	Task A: Coordination of PATH Track Access Requests	17
	Task B: Coordination and Evaluation of Schedules	19
	Task C: Evaluation of PATH Facility Force Requirements	19
	Task D: Logistical Support	20
	Task E: Program Deliverables	21
SECTION G:	Management Approach	22
	Organization Structure	23
	DBE Involvement and Participation	25
	Quality Assurance and Quality Control	25
	Safety	25
SECTION H:	Subconsultants	
SECTION I:	M/WBE Participation	
SECTION J:	Affiliates	
SECTION K:	Contract Exceptions	
SECTION L:	Conflict of Interest	

A Agreement on Terms of Discussion



ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation thereof (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Authority website at *http://www.panynj.gov/AboutthePortAuthority/ContactInformation/foi_policy.html*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Parsons Transportation Group of NY, Inc.
(Company)

Peter R. Guest
(Signature)

Peter R. Guest, P.E., Vice President
(Title)

1/14/10
(Date)

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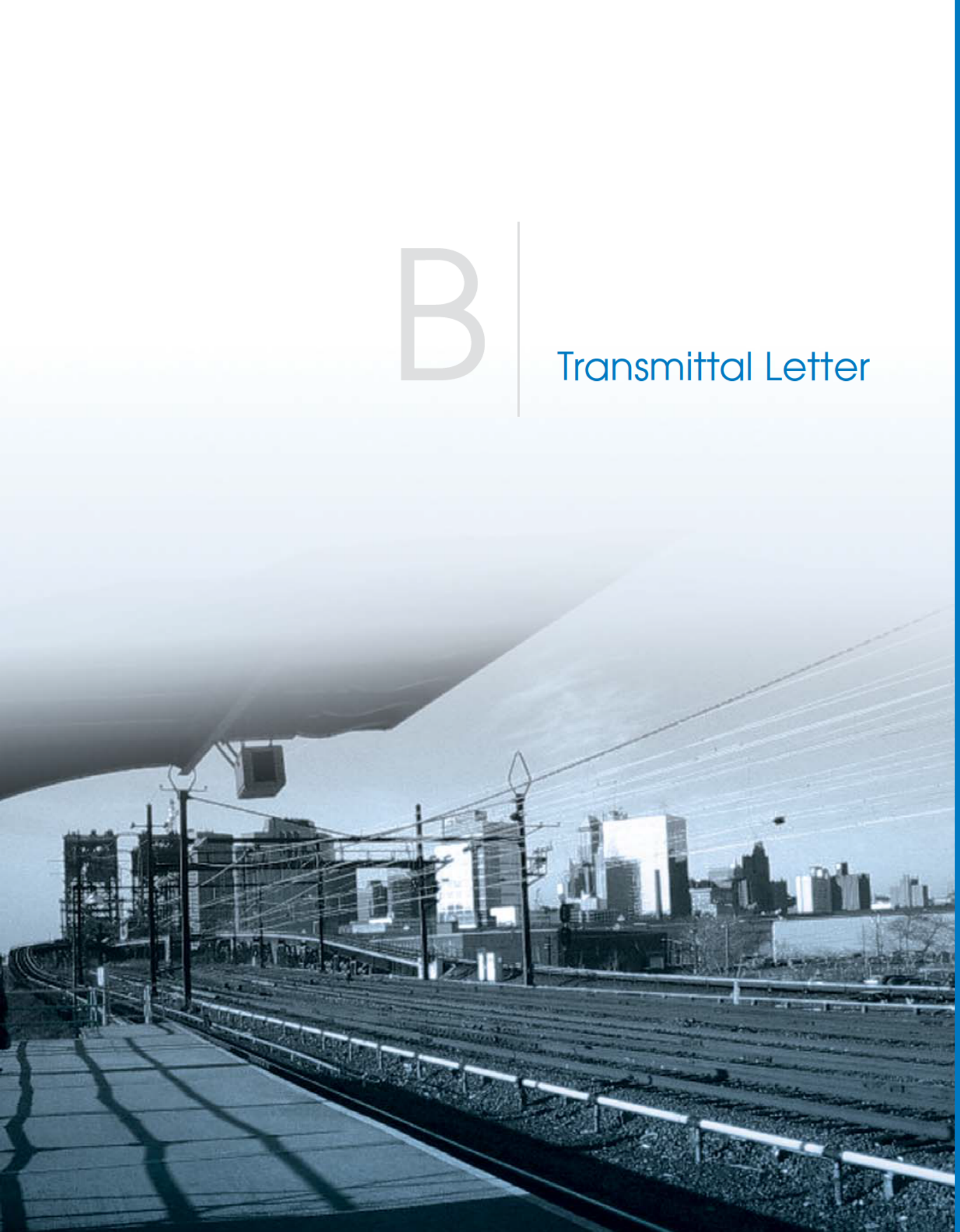
B

Transmittal Letter



PARSONS
100 Broadway • New York, New York 10005 • (212) 266-8300 • Fax: (212) 571-6825 • www.parsons.com

January 14, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010
Attention: RFP Custodian

Subject: RFP Number 19980-Performance of Expert Professional Planning, Project Management, and Related Services as Requested on a Call-in Basis during 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH)

Dear RFP Custodian:

Parsons, proposing as a single entity, is pleased to submit one reproducible original, five copies, and one CD Rom copy of our proposal to the Port Authority of New York and New Jersey and Port Authority Trans-Hudson (PATH) to provide expert professional planning, project management, and other related services to PATH's Logistics Planning Group in support of its $4.1 billion Capital Program.

PATH's daily delivery of rapid, reliable, and convenient service is critically important to the mobility and economic health of the Port District and the overall New York metropolitan region. Parsons provides PATH a unique team of program management and force account planning experts to work cooperatively with PATH staff to ensure a coordinated approach to support its Capital Program while maintaining operations and maintenance programs. ***We are providing a team of railroad professionals that have performed extensive facility force account management and program planning in a high-volume, third rail-powered operating environment in support of a Capital Program.***

Parsons, along with the other members of our team, has been supporting PATH for many years and we want to continue to do so by helping implement this very important program. We worked side by side with PATH management and technical staff for the past several years in developing its Railcar and Signal System Program, constructing the temporary World Trade Center station, and designing the permanent WTC terminal in Lower Manhattan.

This Capital Program force account support planning and assignment effort will require the development of a track outage program, force account resource-loaded schedule, and Master Schedule to support the management and coordination of multiple projects impacting all of PATH's operations. Our team has been specifically designed to meet these requirements.

Parsons is proposing highly experienced individuals that are second to none in terms of managing facility forces supporting capital projects on an operating railroad. These program managers understand PATH's need to balance track outages for the Capital Program, with train operations and work-force limitations such as hours-of-service and union rules. We are committed to provide the staff and services identified in the attached proposal to support PATH's efforts.

The following is a summary of the team's capabilities:

Project Management: The Parsons team has the organization and the staff to commence work immediately. Our proposed Project Manager is ***Nick LaRocco***. Nick, a Parsons Vice President, is a Senior Program Manager with extensive project management experience — especially in the Capital Program planning and management of force account in support of Capital Programs and developing Master Schedules for overall management of resources and track rights. Prior to joining Parsons, he spent 30 years at the Long Island Rail Road (LIRR), where he managed the development of its $2.1 billion capital program. Nick has a complete understanding of all elements of PATH's program needs, including force account management, program management, project controls, project reporting, project coordination between disciplines, and coordination with the operating departments. He has the expertise and proven, successful experience managing large, multi-disciplined projects similar to PATH's requirements, involving construction, multi-departmental coordination, and force account work.

Exceptional Staff: In addition to Nick, Parsons will provide PATH a team of planning, project controls, and force account management professionals who have supported the implementation of a Capital Program on an operating railroad. Included in this team is ***John Postorino***, who led the logistical planning effort for the LIRR Engineering department in support of its multi-billion-dollar capital program. He is supported by ***Nagaratnam "Rabi" Rabindran, PE***, who until recently worked with PATH in the development of its ATC program. Further supporting PATH will be ***Henry Hattenrath***, who worked with John in developing force account estimates and schedules for the overall Engineering Program and Capital Program. In addition, the Master Schedule will be developed and maintained by ***Murali Puthiyarambath***, who is currently working on PATH's Capital Program.

Program Management Experience on Rail Capital Improvement Programs: Parsons has a long history of successfully managing large projects since the firm's founding in 1944 by Ralph M. Parsons. Our reputation for producing the highest quality work is recognized throughout the industry. Most recently, in its 2009 *Engineering News Record* (ENR) valued Parsons #3 in Construction Management for fee and #4 for Program Management. In *Roads & Bridges Magazine's* Go-To List of Top Design Firms, Parsons is ranked Number 1 in the Mass Transit Category.

Parsons has been performing Program Management on large rail capital programs throughout the world, beginning with the Program Management of Amtrak's Northeast Corridor Improvement project in the 1970s. We have been the Washington Metropolitan Area Transit Authority's (WMATA) Program Manager/General Engineering Consultant (GEC) since the inception of the system. We are also the Program Manager for New York City Transit's Advanced Technology projects, which include the implementation of Communication-Based Train Control on the Canarsie Line, and we are very familiar with PATH's ATC program, having helped develop it. Parsons, in a joint venture, is currently providing Program Management/Construction Management services on New Jersey Transit's Access to the Region's Core (ARC) Tunnel, a $8.7 billion project. We are also the Program Manager on the Dubai Metro project, which opened for operations this past September. Additionally, Parsons, in a joint venture, is currently serving as the Program Manager for the MTA's Security Capital Program in New York. We bring all this expertise to PATH.

We are accustomed to managing large rail capital programs from planning to service implementation. And with the global resources of more than 11,300 employees in 350 offices, successfully executing 5,000 projects in 50 states and 26 countries, PATH can be confident that Parsons can provide whatever expertise and resources are needed throughout the life of this On-Call contract to successfully address any challenge and deliver the right staff to support PATH in the implementation of its Capital Program.

Team Strengths: The Parsons team is the ideal choice for PATH at this important force account planning and implementation stage of your capital program. Only our team can provide the combination of technical excellence, railroad facility force management experience, force account planning, project continuity, and cost effectiveness that offers PATH these key benefits:

- **In-Depth Understanding of PATH's Requirements.** Based upon our ongoing work and extensive familiarity with the PATH system and capital projects, we bring a keen understanding of PATH's infrastructure, assets, and facility force requirements to support its $4.1 billion Capital Program. We know how to apply force account planning and track outage scheduling and equipment allocation to PATH's capital program without compromising customer satisfaction in its intensive operating environment. In addition, we understand the new hours of service requirements imposed by the Rail Safety Improvement Act of 2008 and will manage and resource load the schedules accordingly.
- **Provision of World-Class Expertise.** Our experienced and highly capable on-site team will work closely with PATH's Way & Structures Division, PS&C Division and Transportation Division management to develop a comprehensive track outage and facility force resource-loaded program to support the Capital Program and manage its execution on a day-to-day basis. This use of specialized resources on an as-needed basis will result in the most cost-effective application of skills possible while providing the Logistics Planning Group as much support as required.

- **Industry-Leading Capital Program Development Expertise.** The Parsons team is uniquely positioned to provide highly qualified staff to support the implementation of PATH's capital program. Parsons is a recognized leader in Program Management in the rail industry and has staff with hands-on knowledge in the development of long-term maintenance and capital programs to support your operations. Nick LaRocco, our proposed Project Manager, and our proposed team, will leverage their proven, successful experience in managing capital logistics planning to make PATH's Capital Program a success.
- **Minority-Owned and Women-Owned Business Enterprise Participation.** Parsons has a successful record of achieving Affirmative Action goals, both in our hiring practices and in the use of qualified Minority-Owned and Women-Owned Business Enterprise subconsultants, in which we often exceed our client's goals as detailed in our accompanying proposal. We are pleased that JCMS and ISR have joined our team on this important effort. We are proud of our long-standing working relationship with these firms both through our current PATH work and other projects. We are committed to meeting or exceeding the stated goal of 12 percent Minority-Owned Business Enterprise and 5 percent Women-Owned Business Enterprise.
- **A Culture of Safety.** Lastly, but most importantly, Parsons will bring to this program a safety culture and record that is unmatched in our industry. In January 2009, Parsons became the eighth U.S. company — and first engineering/construction company — to achieve a top-ranking Star Status in the U.S. Department of Labor Occupational Safety & Health Administration's (OSHA) Corporate **Voluntary Protection Program (VPP).** As a result, Parsons is recognized by OSHA for having a world-class safety program and culture — from its management structure down through all employees working in the field. All Parsons' offices and worksites, including those for PATH, will be eligible to qualify for VPP Star Status, which can potentially benefit PATH by adding to the agency's bottom line. Injuries, illnesses, workers' compensation premiums, and other costs may be reduced through VPP participation.

Parsons offers our professional commitment to provide the services described and the personnel specified. We will do our best to build upon our record of achievement to accomplish the ultimate goal of the work — implementing a successful, long-term capital program that will maintain PATH in a state of good repair.

Parsons appreciates this opportunity to provide you with our qualifications and we look forward to reviewing and negotiating the terms and conditions of the expert professional on-call services agreement described generally in "Scope of Work" in Attachment A. If you have any questions, please feel free to call me directly at (212) 266-8507 or Nick LaRocco at (212) 266-8435.

The following proposal is in full compliance with the "Proposer Requirements," as stated in the RFP.

Respectfully submitted,

Peter R. Guest

Peter R. Guest, PE
Vice President
PARSONS

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   _____

2. Business Address (to receive mail for this RFP):

   _____

   _____

3. Business Telephone Number: _____
4. Business Fax Number: _____
5. Firm website: _____
6. Federal Employer Identification Number (EIN): [redacted]_____
7. Date (MM/DD/YYYY) Firm was Established: _____/_____/_____
8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   _____

   _____

9. Officer or Principal of Firm and Title:

   _____

10. Name, telephone number, and email address of contact for questions:

    _____

    _____

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☐ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

C

Cost

C. Cost

PARSONS - Detailed Breakdown of Multiplier

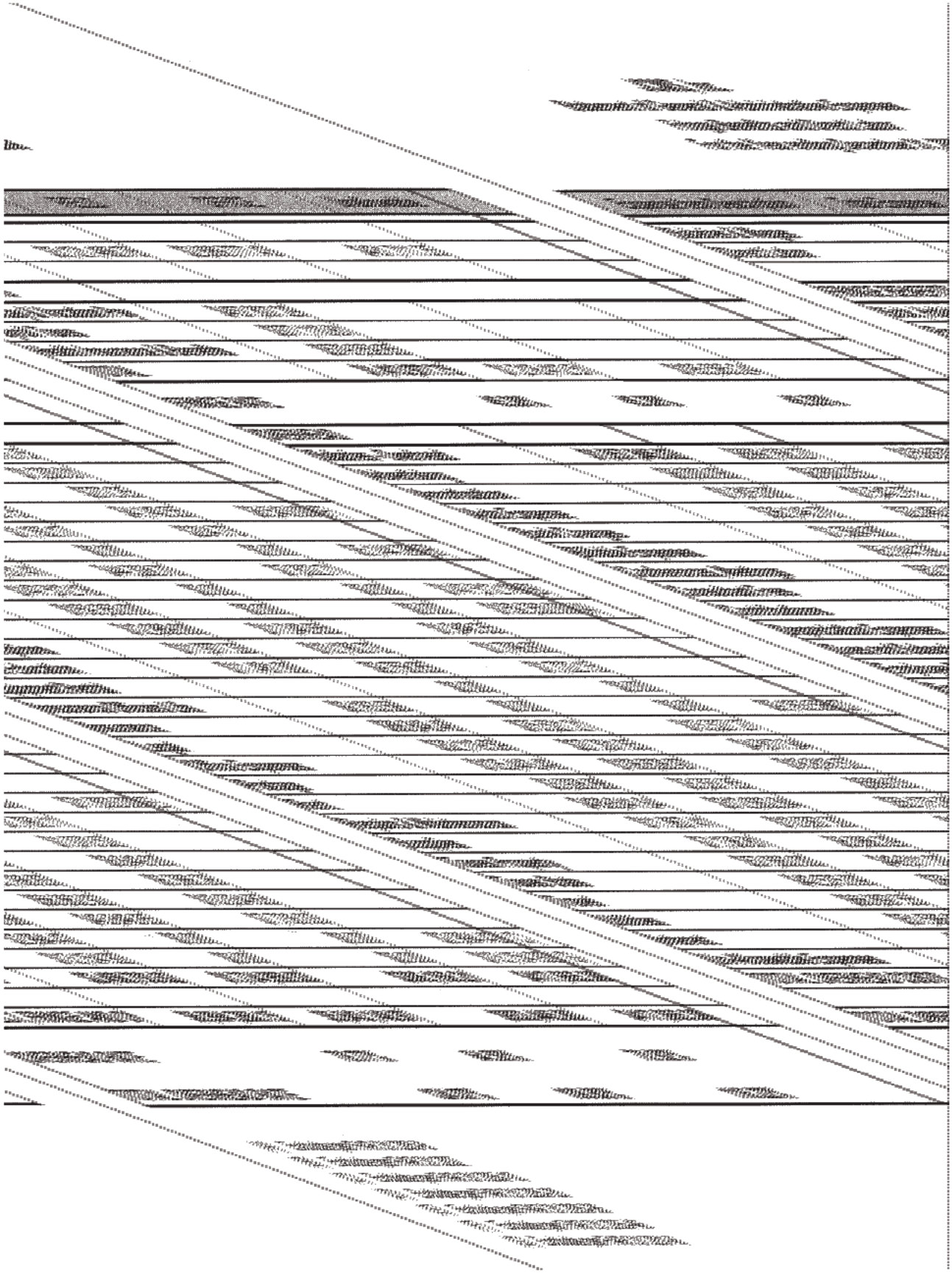
Item	Field Rate % of Direct Payroll
Direct Labor (DL)	1.000
Overhead (OH)	
Fringe	
Holiday Pay	0.0381
Vacation Pay	0.0930
Sick Pay	0.0041
Other Paid Asbsences	0.0023
Insurance, Medical and Life	0.0866
Workers' Compensation	0.0081
FICA	0.0890
Federal/State Unemployment	0.0051
ESOP	0.3046
401K	0.0188
Intercompany/Other	0.0005
Total Fringe	0.6502
SG&A	0.4848
Co. Mngt.	0.0903
Total OH *	1.2253
Total DL + OH	2.2253
5% Fee	0.1113
Multiplier	2.3366

* Note: Per RFP Attachment A, paragraph II - Scope of Work, all staff will be located at PATH's Journal Square Office, therefore the field overhead rate applies.

JCMS - Detailed Breakdown of Multiplier

Item	Field Rate % of Direct Payroll
Direct Labor (DL)	1.000
Overhead (OH)*	1.0980
Total DL + OH	2.0980
10% Fee	0.2098
Multiplier	2.3078

* Note: Per RFP Attachment A, paragraph II - Scope of Work, all staff will be located at PATH's Journal Square Office, therefore the field overhead rate applies. Reference JCMS statement of G&A, Fringe and Direct Labor Year Ending December 31, 2008, for details.



ISR - Detailed Breakdown of Multiplier

Item	Field Rate % of Direct Payroll
Direct Labor (DL)	1.000
Overhead (OH)*	1.0435
Total DL + OH	2.0435
10% Fee	0.2044
Multiplier	2.2479

* Note: Per RFP Attachment A, paragraph II - Scope of Work, all staff will be located at PATH's Journal Square Office, therefore the field overhead rate applies. Reference ISR schedule of Burden, Fringe and Overhead Year Ended December 31, 2008 attached, for details.

Integrated Strategic Resources, LLC
Schedule of Burden, Fringe and Overhead
Year Ended December 31, 2008

Description	Before Adjustments	FAR Adjustments	Note #	After Adjustments	Field Office Allocation Percentage	Field Office Amount	Field Office %	Home Office Amount	Field Office %
Burden and Fringe:									
Paid leaves	$ 83,492	$ 0		$ 83,492	91.80%	$ 76,646	8.27%	$ 6,846	8.27%
Payroll taxes	87,721	0		87,721	91.80%	80,528	8.69%	7,193	8.69%
Group insurance	122,435	0		122,435	91.80%	112,395	12.13%	10,040	12.13%
Total Burden and Fringe	293,648	0		293,648		269,569	29.09%	24,079	29.09%
Overhead:									
Indirect labor	230,769	0		230,769	91.80%	211,846	22.86%	18,923	22.86%
Administrative labor	335,000	0		335,000	91.80%	307,530	33.19%	27,470	33.19%
Rent	64,041	0		64,041	80.72%	51,694	5.58%	12,347	14.92%
Repairs and maintenance	5,648	0		5,648	80.72%	4,559	0.49%	1,089	1.32%
Travel expense	23,669	0		23,669	80.72%	19,106	2.06%	4,563	5.51%
Meals and entertainment	1,413	(1,413)	1	0	80.72%	0	0.00%	0	0.00%
Insurance	15,814	0		15,814	91.80%	14,517	1.57%	1,297	1.57%
Telephone	14,589	0		14,589	80.72%	11,776	1.27%	2,813	3.40%
Depreciation expense	5,262	0		5,262	80.72%	4,247	0.46%	1,015	1.23%
Licenses and permits	26	0		26	91.80%	24	0.00%	2	0.00%
Business development	9,222	(10)	8	9,212	91.80%	8,457	0.91%	755	0.91%
Dues and subscriptions	510	0		510	91.80%	468	0.05%	42	0.05%
Professional fees	49,442	0		49,442	91.80%	45,388	4.90%	4,054	4.90%
Interest expense	12,279	(12,279)	2	0	80.72%	0	0.00%	0	0.00%
Automotive expense	9,391	(5,000)	3	4,391	80.72%	3,544	0.38%	847	1.02%
Office expense	10,167	(1,244)	1 & 2	8,923	80.72%	7,203	0.78%	1,720	2.08%
Postage	298	0		298	80.72%	241	0.03%	57	0.07%
Contributions	500	(500)	4	0	80.72%	0	0.00%	0	0.00%
Payroll processing	2,625	0		2,625	80.72%	2,119	0.23%	506	0.61%
Fines and penalties	888	(888)	5	0	80.72%	0	0.00%	0	0.00%
Provision for income taxes	31,300	(25,900)	6	5,400	80.72%	4,359	0.47%	1,041	1.26%
Facility capital cost of money	0	359	7	359	80.72%	290	0.03%	69	0.08%
Total Overhead	822,853	(46,875)		775,978		697,368	75.26%	78,610	94.97%
Total Burden, Fringe and Overhead	$ 1,116,501	$ (46,875)		$ 1,069,626		$ 966,937	104.35%	$ 102,689	124.06%
Direct Technical Labor	$ 1,009,449	$ 0		$ 1,009,449		$ 926,672		$ 82,777	
Overhead rate	110.60%			105.96%		104.35%		124.06%	

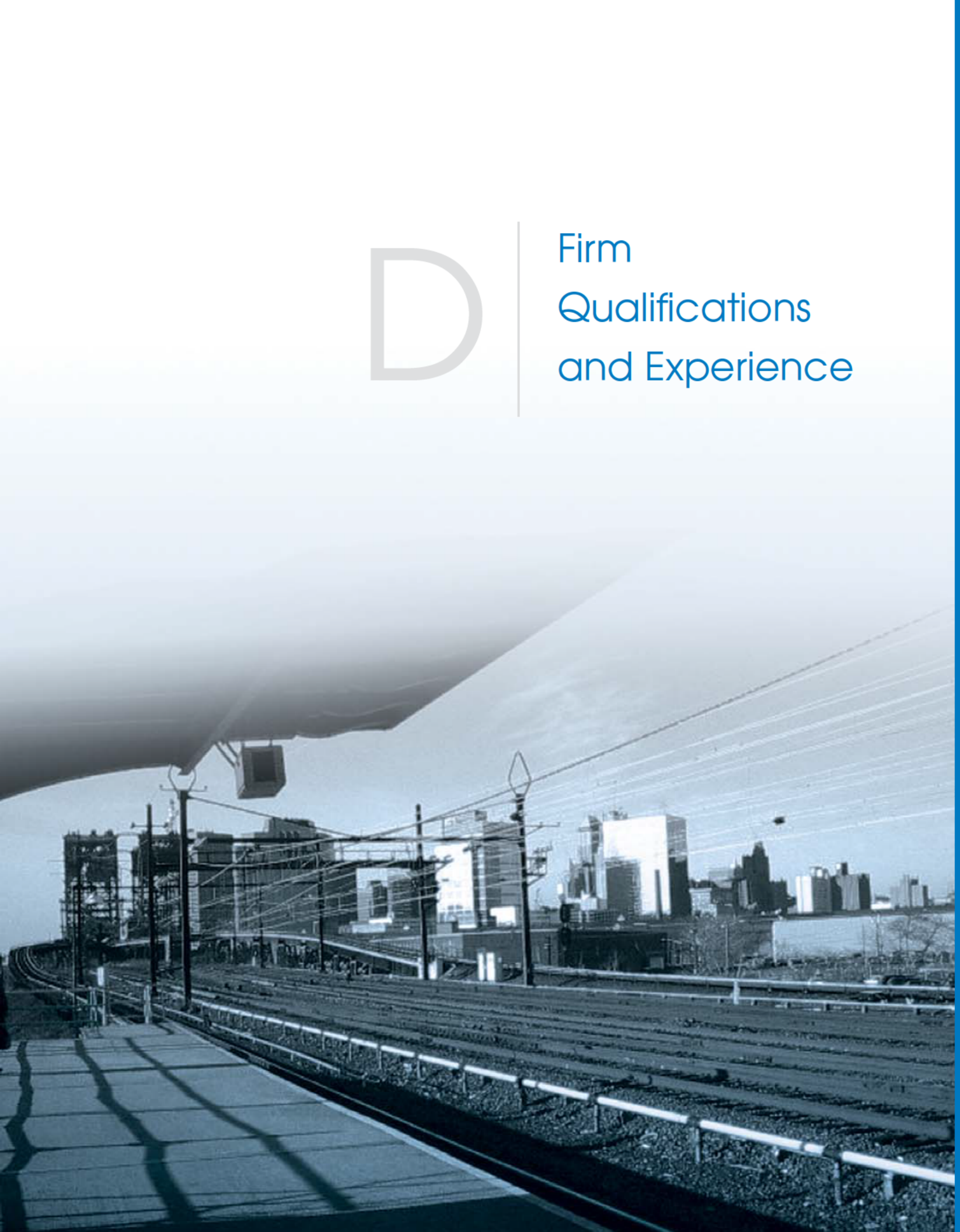
The accompanying notes are an integral part of this schedule.
-2-

Hourly Rates

Name	Firm	Title	Hourly Rates
Nick LaRocco	Parsons	Project Manager	$125.22
John Postorino	Parsons	Senior Planning Manager	$76.92
Henry Hattenrath	Parsons	Lead Plan Coordinator	$63.90
Nagaratnam "Rabi" Rabindran	Parsons	Plan/Field Coordinator (ATC)	$70.07
Theodore Woods	Parsons	Plan Coordinator (ATC)	$76.92
Frank Olsen-Tank	Parsons	Plan Coordinator	$71.15
William Jagerburger	Parsons	Plan Coordinator (Power)	$64.79
William Alexander	Parsons	Field Coordinator (Security)	$69.24
Thomas Berry	Parsons	Field Coordinator (Security)	$52.88
Jeffory Bossard	Parsons	Field Coordinator (Tracks & Structures)	$65.49
Edwin Lofgren	Parsons	Field Coordinator (Signal)/Cost Engineer	$62.30
Arthur Olson, Jr.	Parsons	Field Coordinator (Signal)	$62.30
David Greener	Parsons	Field Coordinator (Signal)	$65.86
Raymond Paice	Parsons	Field Coordinator (Signal)	$68.79
Jeff Pringle	Parsons	Field Coordinator (Fleet)	$84.13
Brian Finn	Parsons	Plan/Field Coordinator (Power)	$88.94
Murali Puthiyarambath, MBA	JCMS	Scheduler	$56.70
Sanjay Shah	JCMS	Scheduler	$50.93
Yuly Aronson	Parsons	Cost Estimating	$67.50
Joseph Bouchedid	ISR	Cost Estimating	$83.40
Sureen Sirkisoon	ISR	Cost Estimating	$82.21

D

Firm Qualifications and Experience



D. Firm Qualifications and Experience

The Parsons team was formed to specifically address the challenges posed by the Port Authority Trans-Hudson Corporation (PATH) in the undertaking of a $4.1 billion multi-year Capital Construction Program focused on renewing existing rail infrastructure, signals, and station facilities; introducing a new rolling stock fleet; and bringing them to a state of good repair. The Parsons team, anchored by the extensive Port Region-based resources of Parsons and supported by our subconsultants, JCMS and ISR, both with extensive PATH experience, has the expertise, resources, and capacity necessary to successfully support PATH's Logistics Planning Group and its capital program.

Parsons has supported PATH for many years. We have worked with PATH's management and technical staff for the past several years in support of the Railcar and Signal System Program, the construction of the temporary World Trade Center station, and the design of the permanent World Trade Center station.

Parsons has extensive experience supporting rail capital program projects beginning with Amtrak's Northeast Corridor and continuing with engineering services for Washington Metropolitan Area Transit Authority (WMATA), Metropolitan Transit Authority (MTA) Systemwide Security, MTA's East Side Access, Caltrain, and Metro North's Shell Interlocking.

Our subconsultants are JCMS, who will provide scheduling services, and ISR, who will provide cost estimating services. They both have significant experience supporting rail capital programs including PATH projects.

Parsons has provided program management services for large rail infrastructure capital programs that have both third-party and facility force account components. Our team will provide PATH with a large resource pool of industry experts who have agency force account management experience in a high volume, third rail powered environment.

Table D-1 below, Benefits to PATH, identifies the benefits the Parsons team brings to PATH in support of the management of its capital program.

Table D-1, Benefits to PATH

ISSUE	FEATURE	BENEFIT	PROOF
Quality of Staff	Parsons team brings proven: • Knowledge of the PATH System from our team's long-time work on PATH projects. • Facility Force Management and Planning in support of a capital program on a third rail powered high-volume railroad. • Capital Program Management knowledge and experience for transit projects. • Technical Expertise planning, managing, and working on Operating Rail Infrastructure including track, structures, signals, communicationss and power. • Technical Expertise with Facilities Infrastructure including stations and maintenance facilities. • Technical Expertise with Technology Infrastructure design, management, and construction. • Technology Expertise on Automatic Train Control Systems.	• PATH will deliver the right projects at the right time – safely, on schedule, and within budget. • PATH's Capital Program will be supported by staff with extensive expertise in the disciplines required to complete the work effectively, using the Parsons team's extensive railroad experience combined with the Team's PATH system knowledge	• Project Manager and Key Staff with decades of combined railroad experience supporting Capital Programs and expertise with PATH. • Project Manager Nick LaRocco has extensive experience managing Force Account support for capital programs for the largest commuter railroad in the country. He worked with the Port Authority of New York and New Jersey (PANYNJ) to facilitate the construction of the AirTrain Jamaica Station. • Senior Planning Manager John Postorino has 26 years of expertise in providing Force Account Engineering support services for Capital Programs for the Long Island Railroad (LIRR). • Plan Coordinator for ATC Nagaratnam "Rabi" Rabindran helped develop PATH's ATC program. • Plan Coordinator Henry Hattenrath has over 24 years of technical and project management experience with facility forces supporting the LIRR Capital Program.
Available Staff Resources	• The Parsons team has a large presence in the Port Region and the New York Metropolitan area, plus a wide variety of expertise throughout the world, which PATH can draw upon as needed.	• PATH will get the right people at the right time. The Parsons team will "right size" its team at any time with maximum use of local resources supported by the right number and combination of world-class experts. • As a result, the Capital Construction Program will deliver the right projects in the right sequence – planned, designed, and built on time and within budget.	• The Parsons team has 400 people in New York and New Jersey supported by 8,000 in the United States and 3,300 around the world, including the PATH World Trade Center station design team. • Rapid mobilization, scale-down, and right-sizing project record includes WMATA, MTA Security, Houston Metro, Mid-Jordan in Utah, and the New York City Transit On-Call.
Experience with PATH Projects and Systems	• The Parsons team has the proven ability to understand and efficiently meet PATH's requirements.	• The Parsons team will save PATH time and money because we are familiar with PATH'S Capital Program and System. • The Parsons team's integration with PATH's staff will proceed more efficiently and effectively.	• Members of Parsons'Team have worked with PATH supporting their ATC and new Car Procurement, and the development of the Master Schedule for the current $4.1 billion Capital Program • Parsons has supported PATH in the rebuilding of the Temporary World Trade Center Station in Lower Manhattan and the design of the new Permanent World Trade Center Station.

Table D-1, Benefits to PATH

ISSUE	FEATURE	BENEFIT	PROOF
Project Management Procedures and Controls	• The Parsons team has proven state-of-the-art technical expertise developed by creating project management procedures and controls systems for major transit projects.	• The Parsons team will bring current experience in a wide variety of Program Management systems to support PATH as required in Logistical Planning. • Proven methods from successful projects ensure quality control throughout documentation, clear lines of communication, and reduced risk of claims.	• In 2009, Parsons managed transit projects totaling more than $17 billion in constructed value. • Parsons has developed Web-based systems for projects throughout the world, including New Jersey Transit's $8.7 billion Access to the Region's Core (ARC) transit project. • Parsons is ranked Number One for Mass Transit in Roads and Bridges Magazine's Go-To-List of Top Design Firms. • In 2009, ENR ranked Parsons #3 Construction Management for Fee and #4 for Program Management .
Minority/ Women Owned Business Enterprise (MBE/WBE) Compliance Program	• Parsons consistently meets or exceeds Affirmative Action goals, both in our hiring practices and in the use of qualified MBE/WBE subconsultants.	• The Parsons team will meet or exceed its 12% MBE and 5% WBE goals for this project. • Our subconsultants are integral to our team. Their work will advance their professional growth and development, which will increase their value for future PATH projects. • The Parsons team includes MBE/WBE subconsultants with whom we have long-standing working relationships on projects for PATH and other agencies, ensuring smooth management integration and project delivery.	• Parsons is implementing an extensive New Jersey Transit DBE compliance and mentoring program on the $8.7 billion ARC tunnel project. • Additionally, Parsons helped WMATA, Houston Metro, and the Massachusetts Bay Transit Authority (MBTA) to successfully meet/exceed their DBE goals for recent projects. • Parsons has Teaming Agreements and Commitments in place with our MBE/WBE subconsultants.
State of Good Repair Capital Program Implementation	• The Parsons team is led by staff with a proven track record of successfully implementing railroad Capital Programs including New Car and Signals programs, platform extensions, security, and station and terminal modifications.	• PATH will receive a Management Team with the proven ability to help deliver a program to advance PATH's System's State of Good Repair Capital Program.	• Parsons has performed Program Management for rail agency State of Good Repair projects for CalTrain, MTA, and New York City Transit (NYCT). • Our proposed Project Manager Nick LaRocco and Senior Planning Manager John Postorino each helped Long Island Railroad achieve a State of Good Repair by planning and managing force account support to its capital program.
Security Program Implementation	• The Parsons team includes staff with Transit Agency Security project experience.	• PATH has access to a staff that has project management and planning experience with rail agency security projects.	• Our proposed Project Manager, Senior Planning Manager, and support staff have implemented and managed security for the MTA and its agencies.

Permanent World Trade Center PATH Terminal

New York, NY

CLIENT:
Port Authority of New York and New Jersey
Corporate Headquarters
225 Park Ave South
New York, New York 10003

PROJECT VALUE:
$3,000,000,000

TOTAL FIRM CONTRACT AMOUNT:
$37,040,000

COMPLETION DATE:
06/30/2010

Principal-in-Charge
Takis Salpeas

Project Manager:
Jane Charalambous, P.E.

Key Staff:
Bashar Altabbaa, Deputy Project Manager
Ben Wesniewski, Engineering Lead
Yn-Hwan (Gary) Hwang, Principal Structural Engineer
Michael McDonald, Chief Electrical Engineer
Nadi Ghaly, Senior Communications Engineer
Mark Littler, Lead Systems Engineer
Tom Gallagher, Project Controls

References:
Mr. Mark Pagliettini
Assistant Director, World Trade Center Construction - PANYNJ
Tel. (212) 435-5531

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Site Logistics/Constructability Review
- Construction Staging to Maintain PATH Terminal Operations
- Design Engineering
- Project Controls

PROJECT DESCRIPTION:

In 2003, the Port Authority of New York and New Jersey selected the Downtown Design Partnership (DDP), in association with renowned Spanish architect Santiago Calatrava, to design the $3 billion permanent WTC transportation hub, also known as the PATH Terminal. This partnership is led by the joint venture of DMJM + Harris and STV Group, Inc. Parsons is an equal partner in the DMJM/STV joint venture and a prominent member of the DDP, which is undertaking this unique terminal design. The Parsons team plays a key role in the transportation hub design and is responsible for the following tasks:

- Oversee the infrastructure group design (civil, structural, geotechnical, underpinning, survey, and environmental) during the preliminary design.
- Directly manage 9 of the 19 final design packages, including all of the early fast-track designs (New York City Transit 1 Line Subway underpinning system, east–west connector, underground ventilation structure, and Route 9 underpass tunnel structure).
- Lead the site logistics and constructability efforts for the phased construction of the terminal. Coordinate with PATH, PANYNJ, and other stakeholders to prepare contract documents for the staged construction while maintaining service (3 tracks and 2 platforms) at all times. Perform egress and level of service analysis to support each of the 4 phases of construction. In addition, Parsons' staff leads the estimating, scheduling, and risk management efforts for the project.
- Serve as the customer's "specialty consultant" to review security/blast-protective designs, including countermeasures that cover chemical, biological, and radiological threats.
- Oversee the project's overall safety program.
- Provide all communication and systems designs.
- Provide the mechanical design for the transportation hub's state-of-the-art skylight providing constructibility oversight/risk management and estimating support.

In addition to the Permanent PATH Terminal, Parsons performed the systems design for the Temporary PATH Terminal that was completed six weeks ahead of an accelerated schedule.

WMATA On-Call General Architectural and Engineering Services

Washington, D.C.

CLIENT:
Washington Metropolitan Area
Transit Authority
600 Fifth Street, NW
Washington, D.C. 20001

PROJECT VALUE:
$5,000,000,000

TOTAL FIRM CONTRACT AMOUNT:
$29,523,295

COMPLETION DATE:
06/30/2010

Principal-in-Charge
Takis Salpeas

Project Manager:
James S. Risher

Project Controls Manager:
Marissa Ona

Key Staff:
Eric Gross, Deputy Project Manager
Michael Fitzmaurice, Senior Communications Engineer
John Bumanis, Principal Mechanical Engineer

References:
Rick Shiflet
Project Manager
Washington Metropolitan Area Transit Authority
Tel. [redacted]

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Prepare Presentations
- Project Planning
- Design Engineering
- Cost Estimating
- Scheduling
- Constructability Review
- Perform Studies
- Construction Oversight
- Prepare Standards
- Specification Development

PROJECT DESCRIPTION:

Parsons, in a joint venture, is providing On-Call General Architectural and Engineering Services to WMATA. More than 220 task orders have been issued by WMATA, valued at more than $80 million, since the start of the project. Services include planning, civil, structural, electrical, mechanical, plumbing, train control and communications, and systems integration. Tasks include:

Infrastructure Renewal: Parsons manages multiple projects on an annual basis to bring the existing Metro system (bus and rail) up to a state of good repair. This work includes inspection and repair of various station and bridge structural facilities, electrical and mechanical systems serving the rail system, rail and bus maintenance facilities, and communications, train control, and command systems operating the rail and bus systems.

Capacity Enhancements: Parsons is actively involved in upgrades to the traction power system to allow for increased train operations (expanding from six to eight car trains at shorter headways). The work includes review of contract designs and shop drawings for new equipment and associated installation. It also involves performing various studies to ensure the network is being appropriately upgraded and staged to maintain operations, while providing for increased future train loads.

New Technologies: We are supporting WMATA in procuring real-time customer information systems for both rail and bus passengers, as well as developing a multi-purpose database to be used for integrated bus ITS systems, rail operations, and internal reporting and management functions. This will include integration of various bus systems (AVL, farebox, radio) for single operator sign-in and more efficient operations.

Capital Projects Planning: Planning tasks include transportation-oriented development studies, evaluation of new and additional entrances for rail stations, and studies for new bus maintenance and parking facilities.

Brookfields 9th Avenue and 31st Street Development

New York, New York

CLIENT:
Brookfield Properties Developers LLC

3 World Financial Center, 200 Vesey Street, 11th Floor

New York, New York 10281

PROJECT VALUE:
$2,5000,000,000

TOTAL FIRM CONTRACT AMOUNT:
$1,200,000

COMPLETION DATE:
06/01/2010

Principal-in-Charge
Takis Salpeas

Project Manager:
Nick LaRocco

Key Staff:
Henry Hattenrath, Deputy Project Manager

References:
James White
Director of Construction
Tel. [redacted]

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Force Account Support Planning
- Force Account Estimating
- Track Rights Scheduling
- Project Staging
- Constructability reviews
- Security
- Construction in 3rd Rail and Catenary Territory
- Construction in High Volume Urban Environment

PROJECT DESCRIPTION:

Brookfield Properties is constructing 3.5 million sq. ft. of commercial towers and two residential towers over Amtrak and LIRR in the vicinity of 9th Avenue and 31st Street in Manhattan. Over 1,200 trains per day, operated by Amtrak, LIRR, and New Jersey Transit, move through the construction zone.

Parsons was providing force account estimates, construction staging, and management of the overall interface with the railroads, as well as performing constructability reviews of the proposed design. It is our role to move the design along and to facilitate the contractor/railroad interface, which included track outages and identifying railroad and force account support.

Project currently on hold due to economic downturn.

MTA Systemwide Security Capital Program

New York, New York

CLIENT:
MTA Capital Construction
2 Broadway
New York, New York 10004

PROJECT VALUE:
$1,500,000,000

TOTAL FIRM CONTRACT AMOUNT:
$14,771,579 to date

COMPLETION DATE:
04/30/2012

Principal-in-Charge
Takis Salpeas

Project Manager:
Nick LaRocco

Project Controls Manager:
JV Partner

Key Staff:
Terry Fetters, Deputy Project Manager
William Alexander, Security Specialist
Jeffrey Abrams, Task Manager
Leslee O'Connell, Task Manager
Samira Michail, Task Manager
Sal Gilardi, Task Manager

References:
Joseph Christen
Program Manager
MTA Capital Construction
Tel. [redacted]

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Task Order Contract
- Provided Staff Support
- Strategic/Capital Planning
- Developed Design Guidelines
- Inter-Agency/Inter-Departmental Coordination
- Developed Designs and Construction Packages
- Cost Estimating
- Quality Assurance

PROJECT DESCRIPTION:

Parsons, in a joint venture, developed and manages a comprehensive security program for the New York MTA to evaluate the capital assets for terrorist threat vulnerability and to develop a list of capital projects. This project is security sensitive.

Systemwide Security Capital Program: Parsons performed a system-wide threat vulnerability assessment for the MTA infrastructure and defined and prioritized projects for an overall MTA security program. We developed a system-wide Security Strategy, Security Design Guidelines, a Threat Risk Vulnerability Assessment methodology to evaluate the entire MTA assets (including development of a database to maintain the information), and specific hardening and electronic security projects.

Inter-Agency/Inter-Department Coordination: Parsons developed security and engineering designs for the LIRR, Metro-North Railroad, Bridges and Tunnels, NYCT, and MTA facilities; and multiple types of facilities including stations, bridges, and tunnels. The approach applied, weighted the goals of the MTA, and the impacts of asset loss in a regional perspective.

Cost Management: Recommended security solutions addressed capital improvements, operational needs, available technology, organizational constraints, maintainability, constructability, and funding parameters. To the extent possible, the objective was to create an integrated, performance-based solution that used off-the-shelf system components.

East Side Access Project

New York, New York

CLIENT:
MTA Capital Construction
2 Broadway, 8th Floor
New York, New York 10094

PROJECT VALUE:
$7,300,000,000

TOTAL FIRM CONTRACT AMOUNT:
$60,522,152

COMPLETION DATE:
12/31/2013

Principal-in-Charge
Takis Salpeas

Project Manager:
Thomas Moore

Project Controls Manager:
Elaine Donaty

Key Staff:
Jeffory Bossard, Construction Phase Services Manager

Bruce Keyl, Design Engineer

Mark McClintock, Tunnel Systems Design Manager

Carlton Wood, Rail Operations Analyst

Ketan Chanpura, Trackwork Design Lead

Joseph Bellars, Manager, Track/ Signal Design

Yakov Strizhevsky, Lead OCS Design

References:
Jerry Foreman
Project Director
Tel. [redacted]

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Design Engineering
- Preparation of Specifications and Standards
- Field Support during Construction
- Coordinating Track Access for GEC Fieldwork
- Track Outage Staging to Facilitate Construction in a Busy Railroad Interlocking
- Identified Force Account Support Required for Third-Party Construction
- Prepared Force Account Planning/ Staging Drawings

PROJECT DESCRIPTION:

East Side Access is a $7.3 billion, 12-year project designed to bring LIRR service to the east side of New York City, using new and existing tunnels from Queens connecting into Grand Central Terminal in Manhattan. Through the MTA/LIRR East Side Access Project, LIRR is realizing its 30-year goal of providing passenger service to Grand Central Terminal, which will improve "one-seat ride" access between the Long Island transportation corridor (Suffolk, Nassau, and Queens counties) and the east side of Manhattan. East Side Access will contribute significantly to regional growth and development by expanding the transportation capacity required to support job growth and the demand for travel into Manhattan's business district.

Parsons is a full partner in the General Engineering Services contract for the MTA for this project, which is the first significant transit expansion program in New York in nearly 50 years. Parsons' primary role includes preliminary engineering, final design, and design support services for construction of the railroad and facility systems elements. The systems elements include all signaling, communications, traction power, overhead catenary, track work, and third rail systems, as well as all auxiliary power, station ventilation, fire suppression, fire alarm, and security systems.

Parsons also performed track outage staging and coordination to facilitate construction, Force Account construction staging, and identified Force Account/Third-Party division of work.

Peninsula Corridor Joint Powers Board General (Caltrain) Engineering Contracts (GEC)

San Carlos, California

CLIENT:
Peninsula Corridor Joint Powers Board
c/o San Mateo County Transit District,
1250 San Carlos Avenue, San Carlos,
California 94070-1306

PROJECT VALUE:
$1,200,000,000

TOTAL FIRM CONTRACT AMOUNT:
$4,521,711

COMPLETION DATE:
12/31/2007

Principal-in-Charge
Takis Salpeas

Project Manager:
Michael Jacques

Key Staff:
Steven La Rocco, Deputy Director, Capital Programs

Richard Moore, Cost Engineer/ Contract Administration

References:
Juanita Vigil
Tel. [redacted]

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Augmented Agency Staff
- System and Facility Planning
- Environmental Analysis
- Preliminary/Design Engineering
- Force Account Planning and Coordination
- Force Account Scheduling and Estimating
- Program Master Scheduling
- Technical Studies
- Construction Management

PROJECT DESCRIPTION:

Parsons provided on-call multidiscipline engineering and construction management (CM) support services for various projects to the Peninsula Corridor Joint Powers Board (PCJPB or Caltrain).

Parsons' dedicated supported the PCJPB in he system and facility planning, design, construction and procurement management, and start-up activities in support of Caltrain's Capital Program. Parsons responsibilities included the following:

- Preliminary engineering and environmental analysis
- Environmental documentation and public scoping meetings
- Track, roadbed, and yard engineering assessments and design
- Platform design
- South San Francisco station layout and preliminary engineering, cost estimating, pedestrian underpass studies, and environmental documentation.
- Technical studies including noise and air quality, and seismic s
- Coordination of PCJPB activities on the Caltrain right-of-way with local cities, the VTA-San Jose system, Amtrak, and Union Pacific Railroad; contract management and administration; and presentations to the PCJPB Board.
- Design for new third and fourth main tracks for the Caltrain "Baby Bullet" express service between San Francisco and San Jose.
- Design of track realignments
- Design for a new railroad bridge
- Amtrak Force Account Planning and Coordination. (Amtrak was contractor performing maintenance)
- Amtrak Force Account Scheduling and Estimating.

PATH Railcar and Phases I and II Signals System Replacement Program

New York and New Jersey

CLIENT:
Port Authority of New York & New Jersey
Corporate Headquarters
225 Park Ave South
New York, New York 10003

PROJECT VALUE:
$300,000,000

TOTAL FIRM CONTRACT AMOUNT:
$3,224,588

COMPLETION DATE:
12/31/2009

Principal-in-Charge
Takis Salpeas

Project Manager:
David Chabanon

Key Staff:
Nagaratnam Rabindran, Lead Systems Engineer
Michael Fitzmaurice, Communications Engineer
David Chabanon, Lead Signaling & Train Control Engineer

References:
Doug Dreisbach
Project Manager
Tel. [redacted]

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Develop Overall Signal Strategy
- Prepare Design-Build Specification
- Prepare RFP documentation
- Augmented Agency Staff

PROJECT DESCRIPTION:

The goal of the PATH Railcar and Phase I Signal System Program is to maximize throughput and passenger flow over the entire PATH system given the existing infrastructure. This increased throughput and passenger flow would result from a combination of decreased headways and running times, decreased station dwell times, better "meets" at converging junction points, and increased train speed and acceleration. As such, the PATH Railcar and Phase I Signal System Program consists of two interconnected projects.

Parsons, in a joint venture, is responsible for providing overall program management and support services. Parsons has primary responsibility for the signal project, which involves the development of an overall signal strategy; the preparation of a design-build specification for a new signal system; and facilitation of industry reviews, including visits to other transit agencies in North America and Europe. Based on completed studies and simulations, a CBTC-based signal system has been recommended.

Shell At-Grade Interlocking Improvements

New Rochelle, New York

CLIENT:
Metro North Railroad
347 Madison Avenue
New york, NY

PROJECT VALUE:
$94,000,000

TOTAL FIRM CONTRACT AMOUNT:
$2,500,000

COMPLETION DATE:
12/31/2008

Principal-in-Charge
Takis Salpeas

Project Manager:
Tom Moore

Key Staff:
Jerry Flori, Catenary Inspector
Rostilav German, Project Administrator

References:
Mike Loney
Project Manager
Tel. [redacted]

HIGHLIGHTS AND RELEVANT EXPERIENCE

- Construction Management
- Construction Inspection
- Force Account Coordination
- Track Outage Planning
- Construction Staging in a Busy Railroad Interlocking

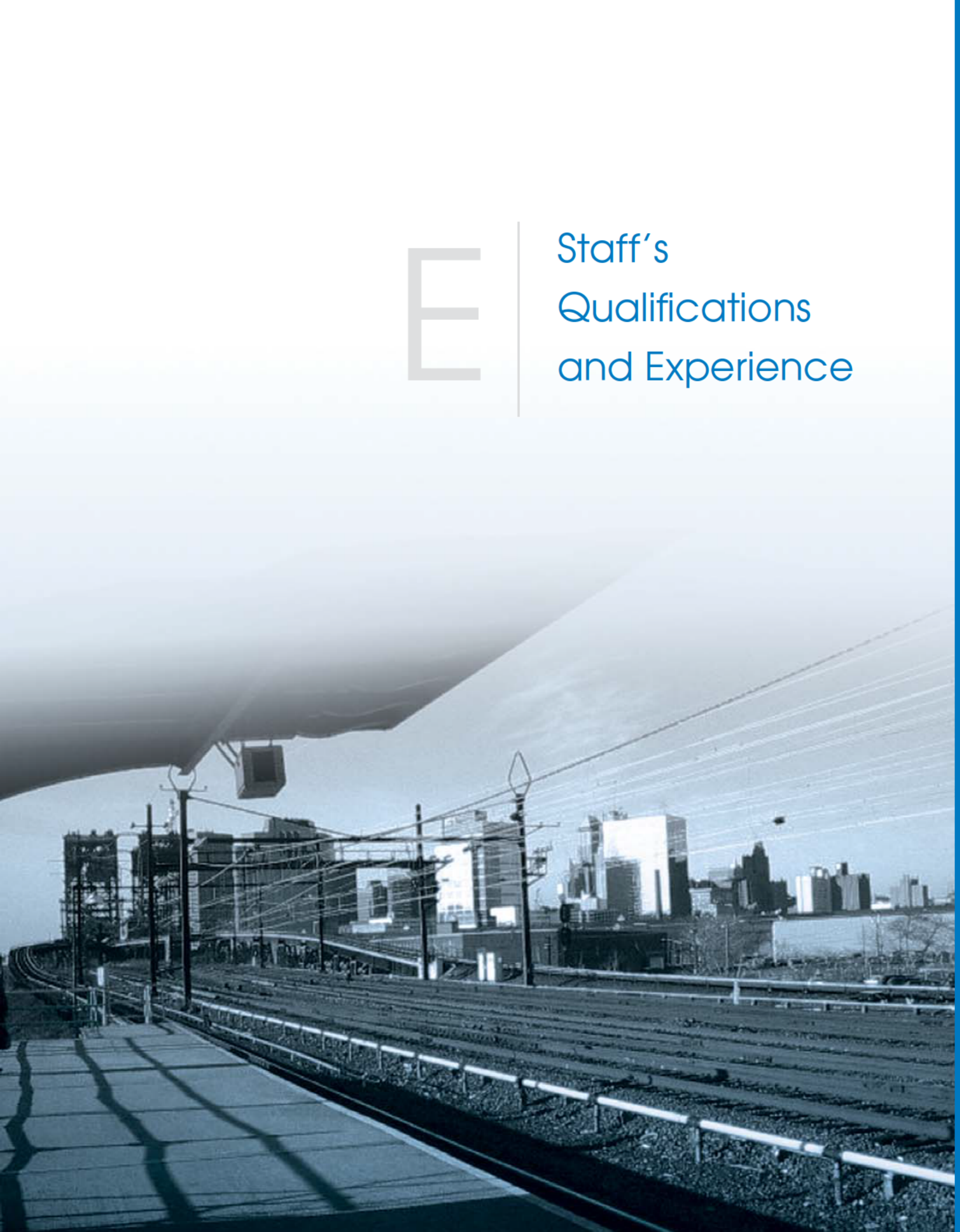
Shell Interlocking had long been identified as a source of delays to Metro-North and Amtrak trains due to conflict in operations between Amtrak's Hell Gate Line and Metro-North's New Haven Line.

The purpose of the project was to improve the operations of Shell Interlocking, with a viable lower-cost alternative. As part of a joint venture, Parsons provided construction management, construction inspection, and related engineering services on behalf of Metro North Railroad (MNR) to manage and oversee the Contractor's installation of all Railroad Signal and Communications, Catenary, and Traction Power work to assure that all work was performed in strict conformance with all applicable requirements of the Contract.

Railroad Signal and Communications Work: The signal and communications (S&C) work on this project generally included all interim and permanent S&C work to support the construction and final configuration of proposed interlockings at CP 215, CP 216, and CP 217. More specifically, the project work included all wayside signal housings and cases, all wayside signal equipment, signal cabling, snowmelter distribution systems, signal code system work at Grand Central Terminal, etc., to provide a complete operational railroad signal and communication system.

Parsons was responsible for monitoring the activities of the third-party contractor and Agency Force Account. This included scheduling Force Account support for Amtrak and Metro North. Parsons participated in track outage planning throughout construction including final system tie-ins. Parsons also participated in the development of construction staging plans required to provide minimal disruption of service.

E Staff's Qualifications and Experience



E. Staff's Qualifications and Experience

THE PROJECT TEAM

Key Personnel

Our **Project Manager–Nick LaRocco**, a Parsons Vice President, is a Senior Program Manager with extensive project management experience — especially in the Capital Program planning and management of force account in support of Capital Programs and developing Master Schedules for overall management of resources and track rights. Prior to joining Parsons, he spent 30 years at the Long Island Rail Road (LIRR), where he managed the development of its $2.1 billion capital program. Nick has a complete understanding of all elements of PATH's program needs, including force account management, program management, project controls, project reporting, project coordination between disciplines, and coordination with the operating departments. He has the expertise and proven, successful experience managing large, multi-disciplined projects similar to PATH's requirements, involving construction, multi-departmental coordination, and force account work.

Task Managers reporting directly to PATH's Acting Program Director-Logistics Planning Group, Wilfredo Guzman.

Senior Planning Manager–John Postorino. John has more than 26 years of experience planning and managing railroad capital and maintenance projects involving LIRR Force Account employees. John's responsibilities included planning annual capital and maintenance projects, coordinating LIRR Force Account labor and equipment, developing annual track outage plans required to support the projects, as well as providing the required project oversight to ensure the programs were properly managed and successful.

John is a seasoned Program Manager for all railroad facility force account disciplines, and possesses extensive knowledge of railroad operations and what is required to successfully plan and deliver projects involving railroad force account labor in an operating environment and in support of third-party contracts.

John will be Parsons' day-to-day interface with PATH's Director-PATH Logistics Planning Group, performing daily assignments and ensuring the other consultant staff are performing their daily assignments and reporting responsibilities. He will work as part of PATH's staff in a fully-integrated team managing the master schedule and estimating functions.

Plan Coordinator–Henry Hattenrath. Henry has 30 years of diversified management and technical experience with transportation, power, rolling stock, and maintenance projects. Henry has over 24 years of technical and project management experience involving all phases of the LIRR's Capital Improvement Programs including maintenance facilities, right-of-way infrastructure, and fleet procurements. Henry is an experienced Senior Project Manager who has planned and coordinated multiple projects working with LIRR facility force account employees. Henry's responsibilities included project scope development, developing project execution plans including track outage planning, force account estimating, and proving proper project management oversight to ensure that all work was completed on time and within budget.

Plan/Field Coordinator–Nagaratnam "Rabi" Rabindran, PE. Until recently, Rabi worked with PATH in the development of its ATC program. He has more than 13 years of experience in the design, development, testing, and commissioning of communications-based train control systems. He has worked on the implementation of projects for rail and transit remote control, communications, and power systems. He is intimately familiar with PATH's ATC project.

Field Coordinator–Jeff Bossard. Jeff has more than 28 years of experience involving rail projects. His experience includes serving as Project Manager for the LIRR Capital Construction program. Jeff has extensive experience serving as Resident Engineer/Inspector on various rail projects nationwide. His project experience has ranged from the complex rehabilitation of New York's Penn Station to providing construction oversight of multiple station, rail, and signal projects. Jeff's responsibilities have included construction management; development of project controls for scope, cost, and schedule; and coordination with multiple contractors and agencies such as the New Jersey Transit, Amtrak, LIRR, and the New York City Transit Authority. He is currently developing the construction staging for the LIRR force account and contractor in Harold Interlocking as part of the LIRR's East Side Access project.

Scheduler–Murali Puthiyarambath. Murali is an engineering and management professional with over 19 years experience on diverse construction projects. He is a Primavera Certified Trainer. He has developed detailed cost and resource loaded CPM schedules, monthly updates including critical path analysis, graphic charts and computer reports, and narrative

reports. He has also been responsible for reviewing and approving contractor-prepared CPM schedules, incorporating changes and change orders, making logic changes, and preparing Recovery Schedules. He is an expert in the latest version of Primavera's scheduling software.

Cost Engineer/Field Coordinator (Signal) - Ed Lofgren. Ed has more than 40 years of experience in construction management and maintenance of railroad signal projects. Ed's experience includes 30 years with the LIRR's Signal Engineering department, where he held positions of increasing responsibility for the maintenance and construction of the LIRR's signal system. Ed has also served as a Resident Engineer on a number of New York City Transit projects. He is fully-versed with field installation and testing of transit signal systems. Due to Ed's extensive field experience in signal installation, he has performed railroad force account estimates for many of the projects on which he worked.

Cost Estimating - Joseph Bou-chedid. Joe has an extensive background in managing and preparing cost estimates, starting at the conceptual/budget stage, through design and construction, to project completion. For seven years, Joe was Manager of NYCT's cost estimating division for the Stations Rehabilitation program area. These estimates have been prepared using either MS Excel or HCSS estimating programs. During his career, Joe has played a vital role spearheading effective cost estimating of multi-billion dollar transportation and infrastructure projects throughout the east coast. These programs included not only new construction, but also expansion and extensive and complex rehabilitation of existing projects ranging from the detailed estimates for the Tappen Zee Bridge replacement with tunneling, rail, and roadway expansion options, PANYNJ JFK (DBOM) Airport Access Program, the MTA's East Side Access Project, and the World Trade Center PATH Permanent Transit Center.

Detailed resumes of Parsons' engineering and technical support staff are included at the end of this section.

NAME	Facility Force Management	ATC/Signals	Large Station/ Terminal	Security	Platform Extension	Capital Program Support	Master Schedule	New Fleet	Substations	Estimates
Nick LaRocco, Project Manager	●		●	●	●	●	●	●		●
John Postorino, Senior Planning Manager	●		●	●	●	●	●			●
Henry Hattenrath, Lead Plan Coordinator	●		●		●	●	●	●		●
Nagaratnam "Rabi" Rabindran, Plan/Field Coordinator (ATC)		●				●				
Theodore Woods, Plan Coordinator (ATC)	●	●								●
Frank Olsen-Tank, Plan Coordinator	●	●				●	●			●
William Jagerburger, Plan Coordinator (Power)									●	
William Alexander, Field Coordinator (Security)				●						●
Thomas Berry, Field Coordinator (Security)				●						
Jeffory Bossard, Field Coordinator (Tracks & Structures)	●		●		●	●				●
Edwin Lofgren, Field Coordinator (Signal)/Cost Engineer	●	●				●				●
Arthur Olson, Jr., Field Coordinator (Signal)	●	●				●				●
David Greener, Field Coordinator (Signal)	●	●								
Raymond Paice, Field Coordinator (Signal)	●	●								●
Jeff Pringle, Field Coordinator (Fleet)	●							●		●
Brian Finn, Plan/Field Coordinator (Power)	●		●	●	●	●	●		●	●
Murali Puthiyarambath, MBA, Scheduler							●			
Sanjay Shah , Scheduler							●			
Yuly Aronson, Cost Estimating										●
Joseph Bou-chedid, Cost Estimating										●
Sureen Sirkisoon, Cost Estimating				●		●				●

Resumes

Nick LaRocco

PROJECT MANAGER

Firm
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Education
Master of Business Administration, Business, New York Institute of Technology, 1986

Bachelor of Science, Civil Engineering, Clarkson University, 1972

Additional Coursework/ Training
Practical Management System, MTA Long Island Rail Road (MTA-LIRR)

Executive Leadership Institute, MTA-LIRR

Diversity in the Work Place, MTA-LIRR

Management Assessment of Proficiency, MTA-LIRR

Harvard Business Series, MTA-LIRR

Advanced Project Management Workshop, Parsons, 2005

OSHA 10, Parsons, 2004

SHARP, Parsons, 2004

START-SAFETY, Parsons, 2004

Managing People, Wharton Graduate School of Business

Professional Affiliations
American Railway and Maintenance-of-Way Association, Subcommittee D-7 - Article "Economics

Profile Background

Nick has more than 38 years of experience in program and project management, strategic planning, construction management, force account management, and railroad/transit operations in all facets of the railroad industry. He developed the long-range strategic plans and capital program for the Long Island Rail Road (LIRR). He has also managed the design and construction of major projects, including railroad force account projects.

As a Program/Project Manager, Nick has extensive experience in project planning, scope development, design, construction, and cost control. He has served as the lead for the program management and Environmental Impact Statement developments for major billion-dollar rail transit projects, implementation of system-wide security programs for transit/railroad clients, and design and construction of major rail/transit facilities.

Employment History

12/2001-present: Parsons

1972-2001: Metropolitan Transportation Authority Long Island Rail Road

Relevant Experience

Project Manager; Brookfield 9th Ave. Overbuild; New York, NY; Brookfield Properties; Parsons (2007-2009)

Nick was responsible for performing program and constructability reviews for a four-acre platform to be constructed over Amtrak and LIRR tracks in the vicinity of Penn Station for a $2.5 billion, 4.5-million-sq.-ft. commercial development over Amtrak/LIRR/New Jersey Transit operating railroads. He worked with the railroads to develop strategies for the performance of the work.

Project Manager; Lower Manhattan Jamaica/JFK Transportation Study; New York, NY; MTA, PANYNJ, LMDC, and NYCEDC; Parsons (2004-2009)

Nick was responsible for an Alternatives Analysis and Draft and Final Environmental Impact Statement for a new tunnel under the East River to bring commuters from LIRR or New York City Transit (NYCT) and JFK International Airport to Lower Manhattan. The project involved developing conceptual engineering and reviewing alternatives that provide LIRR, AirTrain, and/or NYCT service operation in mixed service. The tunnel construction is estimated at approximately $7.5 billion.

Project Manager; Long Island Truck-Rail Intermodal Facility; New York, NY; New York State Department of Transportation; Parsons (2004-present)

Nick was responsible for performing a Draft and Final Environmental Impact Statement and design for a $100 million Rail Freight Intermodal Facility on Long island.

Project Manager; Security Project; New York, NY; MTA Capital Construction; Parsons (2004-present)

Nick is responsible for developing the overall security program for the Metropolitan Transportation Authority (MTA) and performing a threat vulnerability analysis for all assets of the MTA, NYCT, Metro-North Railroad (MNR), LIRR, and Bridge & Tunnel (B&T). He develops preliminary scopes for projects that deter, mitigate, and detect threats to the system. Nick also develops detailed

of Various Fixations to Wood Ties", printed in AREA Bulletin No. 717 October 1988

American Railway and Maintenance-of-Way Association, Subcommittee B-1-Manual Revision

American Railway and Maintenance-of-Way Association, Subcommittee B-1 Part 2 - Rewrite "Programming Work", printed in AREA bulletin No. 729, Vol. 92, January 1991

American Railway and Maintenance-of-Way Association, Subcommittee B-2 Part 3 - Rewrite "Construction and Maintenance Operations"

American Railway and Maintenance-of-Way Association Membership Committee

Roadmasters and Maintenance-of-Way Association of America

American Railway and Maintenance-of-Way Association

Metropolitan Railway Club, New York

American Passenger Transportation Association Conference - "Maintenance Shop Design"

American Railway and Maintenance-of-Way Association, Committee #22 - Economics of Railway Construction and Maintenance

project scopes and preliminary designs for the proposed projects, as well as security/safety specifications for future capital projects. In addition, he creates security protocols for handling security issues pertaining to design and construction of security-sensitive projects. Nick is providing program management and construction support for the $1 billion program.

Metropolitan Transportation Authority LIRR, New York, NY (1972-2001)

Chief Engineer, Strategic Investments: Nick directed development of the LIRR $2.3 billion Five-Year Capital Program and 20-Year Needs. He provided program interface with state officials to communicate LIRR needs with regard to strategic investments, including directing development of the Corporate Strategic Business Plan. He also directed development and implementation of corporate strategies for infrastructure and fleet, and led LIRR in the implementation of a corporate-wide Asset Condition Database using geographic information systems.

Program Director - JFK AirTrain: Nick directed the LIRR project team in coordinating with the Port Authority of New York and New Jersey to design and perform the construction of the JFK Light Rail connection at the LIRR station in Jamaica, a joint $600 million project.

Director, Infrastructure Strategy: Nick developed Strategic Plans for Infrastructure Rationalization to assure long-term, cost-effective operations. He identified projects, developed scopes, and validated detail-critical components of the LIRR's capital program. Nick developed strategic plans for the corporate implementation of geographic information systems and intelligent transportation systems, and interfaced with the state and local communities to communicate and effect LIRR strategies and plans. He worked closely with community and public officials to address local concerns regarding the LIRR capital program and strategic plans.

Chief Mechanical Officer: Nick directed 1,700-person department and managed the $150 million annual operating budget; providing oversight of rolling stock maintenance, overhaul, and support functions. He assured short- and long-term operating viability of the LIRR 1,200-car and locomotive fleet. Nick also supported new diesel fleet procurement and developed transition plan to dispose of old fleet and integrate new fleet into rail operations.

Assistant Chief Mechanical Officer - Shops: Nick directed 650-person department and controlled a $65 million budget. He provided oversight of all rolling stock maintenance and overhaul operations, and assured component and support shop quality and work performance to meet operational needs of a 934-car electric MU fleet.

ACMO, Hillside Facility Commissioning: Nick directed the final construction and commissioning of the $380 million Hillside Maintenance Complex. He also directed the successful transition of the rolling stock facilities and employees into new facilities in an accelerated time frame and with minimal operational impact.

Assistant Chief Engineer, Planning and Administration: Nick planned the life cycle maintenance and "state-of-good repair" program. He developed force account estimates, and directed planning and scheduling of capital program and maintenance work for all engineering disciplines.

Engineer, Structural Maintenance: Nick directed a 195-person department and managed all the structural maintenance on bridges, buildings, station platforms, etc. He also directed all structural activities on projects in the capital program having to do with LIRR structures, including stations and bridges.

Engineer of Track: Nick directed a 700-person department and provided oversight of all track and right-of-way activities on a 700-mile system. He also directed all project management activities on "state of good repair" track structure projects.

Director, MW Planning and Performance: Nick scheduled state-of-good repair maintenance programs; and developed force account estimates for maintenance and capital programs.

John A. Postorino

SENIOR PLANNING MANAGER

Firm
PARSONS

Education
Bachelor of Science, Civil Engineering, Fairleigh Dickinson University, 1983

Additional Coursework/ Training
Project Management Certificate Program, International Institute of Learning, 2002

Profile Background

John has more than 26 years of experience planning and managing Railroad Capital and Maintenance projects involving Long Island Railroad (LIRR) Force Account employees. John's responsibilities included planning annual capital and maintenance projects, coordinating LIRR Force Account craft labor and equipment, developing annual track outage plans required to support the projects, as well as providing the required project oversight to ensure the programs were properly managed to ensure successful delivery.

John is a seasoned Program Manager involving all Railroad Force Account disciplines and possesses extensive knowledge of railroad operations and what is required to successfully plan and deliver projects involving railroad force account labor in an operating environment.

Employment History

11/2009-present: Parsons

7/1983-2009: Metropolitan Transportation Authority Long Island Rail Road

Relevant Experience

Engineering Manager; MTA/LIRR East Side Access Project; New York, NY; MTA Capital Construction; Parsons (2009-present)

John is responsible for managing the design and construction of the catenary system. His responsibilities include maintaining daily communications with the construction management field and project management teams, maintaining design schedules for multiple design packages, and assisting the project management team and contractors.

Metropolitan Transportation Authority Long Island Rail Road; New York, NY

Assistant Chief Engineer LIRR – Force Account Management (2000-2007): John was responsible for management of over $800 million of capital improvement/state-of-good-repair projects performed by LIRR Force Account engineering disciplines and provision of Force Account craft labor to support capital improvement projects managed by the Capital Program Management Department and performed by third-party contractors. The State-of-good-repair projects were federally funded and included: $340 million of track projects, $240 million for signal projects, $130 million for power projects, and $125 million for communications project. John's responsibilities included:

- Directing and supervising project management staff:
  - Managing capital improvement/state-of-good-repair projects performed by engineering disciplines.
  - Providing force account craft labor mandated by labor agreements in support of third-party projects managed by the Capital Program Management Department.
- Supervising preparation of project scopes, budgets, and schedules.
- Formulating, prioritizing, and packaging projects for inclusion in five-year capital programs.
- Coordinating/developing an Annual Track Outage Plan in support of capital improvement, state-of-good-repair, maintenance, and inspection projects.

- Interfacing with oversight agencies, including MTA, FTA, and DOT; and local communities and municipalities on project status.
- Implementing projects funded by the NY State Capital Program Review Board.

Executive Director LIRR – Engineering Coordination (2007-2008): John reported to the Vice President – East Side Access and Special Projects for managing the construction of overbuild platforms above railroad infrastructure in support of multi-billion dollar real estate development projects involving $60 million of LIRR Force Account, construction for Brookfield's Development Project, and $82 million of LIRR Force Account for the construction of the Hudson Yards Development Project. John's responsibilities included:

- Participating in negotiation of construction agreements concerning the technical aspects of the agreements.
- Developing service plans in conjunction with track outages necessary to construct the overbuild platforms.
- Coordinating with Amtrak on the 9th Avenue Development project for sequencing the construction of the overbuild platform, which, when built, will span over both LIRR and Amtrak.
- Reviewing proposed work plans for conformance with railroad design criteria and operational requirements.
- Preparing budgets for all required railroad operational support, including craft labor forces.
- Supervising construction management staff, overseeing site investigation, survey, and preparation work necessary for construction of the overbuild platforms.
- Ensuring protection of all railroad infrastructure during field activities, including application of all safety provisions and conformance of all activities to railroad operational requirements and provisions for roadway worker safety as specified under 49 CFR Part 14.

Principal Engineer of Track - LIRR (1994-2000): John was responsible for the economical and efficient maintenance of track and right-of-way for 700 route miles of track, 320 miles of which are electrified with DC contact rail. The Track Department included a work force of 410 employees with an annual operating budget of $42 million. John's responsibilities included:

- Supervising craft labor forces in the maintenance, repair, and inspection of track and right-of-way
- Managing capital improvement and state-of-good-repair projects performed by Track Department employees.
- Ensuring a safe work environment and compliance with all safety rules and regulations and compliance with requirements of 49 CFR Part 214.
- Organizing and leading operational meetings with all engineering disciplines to maximize productivity through performance of multiple discipline projects during planned track outages.
- Represented the Engineering Department at all track outage planning meetings to ensure all projects were properly prioritized and coordinated.
- Directing the implementation of sound policies and procedures for controlling department function, including balancing/allocating of resources and the development of effective relationships with union officials.
- Preparing the departmental budget for both operating and capital-funded work.
- Establishing programs to review and take advantage of evolving technologies, resulting in such innovations as implementation of new track surfacing equipment.
- Developing and managing the first LIRR concrete tie program.

Henry Hattenrath

PLAN COORDINATOR - LEAD

Firm

PARSONS

Education

Associate of Science, Engineering Science, Queensborough Community College, 1981

Mechanical Engineering, City College of New York, 1976-1982

Additional Coursework/ Training

Harvard Breakthrough Customer Service, LIRR, 1995

LIRR Management Education Program, 1983-2007

Telemetrics Models for Management, LIRR, 1985

ISO 9000:2000, LIRR, 2003

Managing Projects: Essential Tools for Managing Projects in Your Organization, MTA, 2002

Leading from the Middle, MTA, 2001

OSHA 10-Hour Course, General Industry, MTA, 2002

Certifications

New York State Code Compliance Manager

Professional Affiliations

Project Management Institute, Member 2005-date

Profile Background

Henry has 30 years of diversified management and technical experience with transportation, power generation, and maintenance projects. Henry also has more than 24 years of technical and project management experience involving all phases of the Long Island Railroad's Capital Improvement Programs, including maintenance facilities, right-of-way infrastructure, and fleet procurements. Henry is an experienced senior project manager who has planned and coordinated multiple projects utilizing LIRR Force Account employees. Henry's responsibilities included project scope development; developing project execution plans, including track outage planning; and proving proper project management oversight to ensure that all work was completed on time and within budget.

Employment History

10/2007-present: Parsons

1983-2007: Metropolitan Transportation Authority Long Island Rail Road

Relevant Experience

Senior Technical Consultant; MTA/LIRR East Side Access Project; New York, NY; MTA Capital Construction; Parsons (2009-present)

Henry is part of the GEC Design Team for the $7.3 billion East Side Access Project, responsible for the design packages for third-party Contractors, Amtrak and LIRR Force Account work for new construction and relocation of existing infrastructure throughout Harold Interlocking in western Queens. The Team consists of multiple stakeholder, funding partners, oversight consultants, contractors and design consultants for railroad systems such as track, signal, communications, power, system safety/security and operations. As an FTA project, the deliverable specifications, drawings, schedules and estimates are supplemented by reports in a formalized processes for risk management, system integration management, and quality management. In managing a matrix of designers and other project contributors, he oversees the timely submission of quality deliverables, which is the foremost measure of the Team's performance and client satisfaction. In addition, he interfaces directly with MTA management, Amtrak/LIRR stakeholders and project management consultants. Henry's specific deliverables contributing to the GEC Design Team include daily and monthly progress reports, manpower plans, design work plans, design schedules, extra work order descriptions and estimates, and contract packaging and execution recommendations.

Senior Technical Consultant; 9th Avenue and 31st Street Development; New York, NY; Brookfield Properties Developers LLC; Parsons (2007-2008)

Henry is responsible for providing program management services for the $2.5 billion Brookfield Properties Developers LLC Project for an air rights project over the Long Island Rail Road, Amtrak, and New Jersey Transit tracks west of Penn Station. The project includes the construction of 3.5 million sq. ft. of structures on a site that is traversed by 1,200 trains per day. Henry provides broad added-value services that include advising the developer regarding railroad operations, processes, and infrastructure requirements; creating project implementation strategies; project controls, including developing cost estimates, schedules, and detailed work plans; and providing technical input and review of the developer's design and construction documents.

Metropolitan Transportation Authority Long Island Rail Road; New York, NY (2002-2007)

Director/Senior Manager – Long Island Railroad Capital Program Force Account Management: Henry was responsible for oversight and management of multiple LIRR Force Account capital improvement projects that included the planning, design, construction, and commissioning phases for $240 million of signal projects, and $130 million of power/substation projects. Henry provided added-value services that ranged from project management office operations and oversight to on-site construction management. The services covered all project phases, including planning, execution, monitoring, controlling, and close-out. The services also included project definition, controls, and reporting; estimating; scheduling; quality and safety assurance; procurement planning; contract administration; risk and records management; and acceptance testing and commissioning.

Nagaratnam Rabindran ("Rabi")

PLAN/FIELD COORDINATOR (ATC)

Firm

PARSONS

Education

Master of Science, Electrical Engineering, Concordia University, Montreal, 1992

Bachelor of Engineering, Electrical Engineering, Regional Engineering College, India, 1988

Additional Coursework/ Training

Unified Modeling Language, IMR Global, Toronto, 1999

Programming in C++, Prior Data Sciences, 1997

Software Engineering Practice, A Series of Seminars, University of Toronto, 1998

Registrations

Professional Engineer, [redacted] Ontario, Canada

Profile Background

Rabi has 15 years of experience involving the design, development, and testing of communications-based train control (CBTC) systems. He has worked on design and implementation projects for rail and transit remote control, communications, and power systems. Rabi was a key manager in the development of PATH's automatic train control (ATC) project.

As an Automatic Train Control Engineer, he monitors the automatic train control (ATC) software development process to ensure the work proceeds in a structured and disciplined manner and in accordance with the software quality requirements and schedule. Rabi also reviews the functionality of the software throughout its development to ensure the functional requirements were satisfied, and performs nonconformance analysis and monitors corrective actions. He is also responsible for the commissioning of automatic train control (ATC) systems in the field, including supervisory control and data acquisition, passenger information, switch machine, platform door, and vehicle interface with the ATC system. The review of software documentation and issuance of corresponding operating restrictions and guidelines to the Operations and Maintenance (O&M) company are also part of his responsibilities. He also provided on-the-job training to O&M employees on the operation of the ATC system.

Employment History

4/2004-present:	Parsons
1999-2004:	Bombardier Transportation, Jamaica, NY; Kingston, Ontario, Canada
1993-1999:	Alcatel (SEL); Weston, Ontario, Canada
1992-1993:	Allied Signal Aerospace Canada; Etobicoke, Ontario, Canada

Relevant Experience

On-Site Project Manager; PATH Railcar and Signal Program, Phase II; New York, NY; PANYNJ; Parsons (2005-2009)

Rabi served as the primary day-to-day point of contact with the PATH's capital program management group and joint venture team on all contract management issues related to the three signal project Phase I contracts with Alcatel, Bombardier, and Siemens. His responsibilities included keeping track of the status of all contract deliverables; ensuring meeting agendas, minutes, and other correspondences are issued in a timely fashion; and tracking action items. Rabi chairs bi-monthly signal project meetings; leads cut over strategy, wayside integration, and limited engineering trials planning working groups; reviews and provides comments on Phase I reports from the three contractors; and reviews payment requests for approval from the Phase I contractors. He also reviews and updates Phase II design criteria and performance requirements for the design, procurement, installation, and testing of a complete CBTC signal system and recommends changes to include lessons learned in Phase I for Phase II technical and commercial specifications.

Systems Engineer; MTA CBTC Systems for Second Avenue Subway and Flushing Line (CM-1235); New York, NY; MTA New York City Transit; Parsons (2004-2006)

Rabi prepared peer review preliminary engineering (PE) submittals; and created a database to collect comments received from various reviewers of PE submittals.

Systems Test Engineer; MTA Canarsie Line Resignaling; New York, NY; MTA New York City Transit (NYCT); Parsons (2004-2006)

Rabi reviewed and commented on CBTC system design and testing submittals; and created and maintained a database to monitor the progress of the overall testing process in the field, such as integration and systems testing. He supported and occasionally chaired weekly test planning meetings, and prepared and distributed meeting minutes. Rabi also witnessed the contractor's formal and preparatory tests that were run in the field, which included writing reports to the client on a daily basis. He also created and maintained a nonconformance database to track problems observed in the field.

Automatic Train Control Commission Engineer; JFK AirTrain; Jamaica, NY; PANYNJ (2001-2004)

Rabi participated in software testing and commissioning in the field. He reviewed Alcatel's software documentation and issued corresponding operating restrictions and guidelines to the operations and maintenance (O&M) company. Rabi also provided on-the-job training to O&M employees on the operation of the communications-based ATC system, and served as Support Testing and Commissioning Manager responsible for coordinating power supply distribution and isolation. He oversaw the scheduling of activities, including construction in testing and commissioning areas and issuance of occupancy and work permits. Rabi also supported the troubleshooting of a supervisory control and data acquisition system, passenger information, switch machine, platform door, and vehicle interface with the ATC system.

Train Control Design Engineer; JFK AirTrain; Jamaica, NY; PANYNJ (1999-2001)

Rabi was responsible for the implementation and testing of the communications-based ATC software that was developed by Alcatel for the JFK Light Rail System. His responsibilities included monitoring the software development process to ensure the work proceeded in a structured and disciplined manner in accordance with the software quality requirements and the schedule. He also reviewed the functionality of the software throughout its development to ensure the functional requirements were satisfied. Rabi carried out a nonconformance analysis and monitored corrective actions. He reviewed software testing procedures to ensure the software was exercised, and assisted with the preparation of qualification and verification test procedures.

Software Engineer; Docklands Light Rail; London, United Kingdom (1993-1995; 1997-1999)

Rabi's responsibilities included designing, debugging, and testing a vehicle control center (VCC) for the London Docklands light rail system. The VCC provided complete real time automatic train control, train protection, and supervision for the mainline track. The project involved replacing a fixed-block train control technology with a moving block technology and extending the system.

Software Engineer; Kuala Lumpur Light Rail; Kuala Lumpur, Malaysia; Projek Usahasama Transit Ringan Automatik (PUTRA) (1996-1997)

Rabi prepared the detailed design and performed the analysis, code, and testing of a second-generation vehicle control center for the Kuala Lumpur rapid transit system. The project involved design preparation and manufacturing, supply, and installation support for the automatic train control system implemented on the PUTRA Line in Kuala Lumpur.

Software Engineer; Development of Environmental Control Systems for C17 and B767 Aircrafts; Toronto, Canada; McDonald Douglas/Boeing (1992-1993)

Rabi's responsibilities included the development and testing of real time avionics-embedded software for aircraft environmental control systems and a Clean Wing Detection System. The project involved preparing the design and developing and testing an environmental control system that controlled the air supply, temperature, and pressure for passengers and crew members on an airliner.

Theodore K. Woods

PLAN COORDINATOR (ATC)

Firm
PARSONS

Education
Master of Business Administration, Transportation Engineering, University of Maryland, 1994

Bachelor of Science, Mechanical Engineering, University of California-Santa Barbara, 1987

Certifications
Project Management Professional, certification in progress

Profile Background

Ted has more than 20 years of experience in transit management and engineering, working at WMATA, a major system supplier, and as a consultant staff member. He has served in a wide range of project roles, including rail system planning and design, specification development, procurement management, factory staging and acceptance, rail field installation and testing, supervision of unionized personnel, commissioning of new rail systems and technologies, economic analysis and cost estimation, capital program development and execution, and technical and cost proposal development. Technical areas of expertise include communications-based train control (CBTC), radio/wireless communications, passenger information, on-board systems, scheduling and dispatch systems, integration and standardization of transit enterprise information systems, CPM scheduling, rail transit operations, and equipment maintenance/logistics. Ted has considerable hands-on field experience; he has personally performed and supervised wayside and on-board equipment installations and civil work.

Employment History

11/2009-present: Parsons; New York, NY

1/2002-11/2009: ARINC Surface Transportation and Security Systems Division; Annapolis, MD

10/1995-10/1998: Washington Metropolitan Area Transit Authority, Department of Operations and Engineering; Washington, D.C.

3/1988-10/1995 : Booz, Allen & Hamilton; Los Angeles, CA; Baltimore, MD; Washington, DC; and Newark, NJ

Relevant Experience

Lead Engineer; NYCT CBTC Program; New York, NY; MTA; Parsons (2009-present)

For the Canarsie Line/R160 Car Retrofit, Flushing Line/R142 Car Retrofit, and Culver Line CBTC Interoperability Test Facility and Test Track, Ted is leading working groups for systems engineering, car integration, test and commissioning, and interoperability. He performed engineer's estimates, and led installation and test planning to achieve schedule compression and minimize general-order time during cut overs.

Project Manager/Interoperability Test Director; NYCT CBTC Program; New York, NY; MTA (2003-2009)

Ted was responsible for scheduling, resource planning, cost forecasting, and cost control across multiple projects. As interoperability working group chair and test track director, he led the first-of-its-kind Phase III demonstration, showing that mixed-vendor (Siemens and Thales) train consists could operate vitally across multi-vendor wayside territories, including ATO mode. Ted set up a test track (on a Culver Line express track used between rush hours) and managed the installation and test operations of R143 test trains. With over 100 test scenarios, each performed multiple times and involved complex train movements and signaling set ups, and Ted conducted an extensive amount of logistics work. He directed and coordinated all transit and contractor test personnel, including train operators/supervisors, MOW and car maintenance support, flaggers, test engineers, and test witnesses. Ted also set up all wayside and carborne installation work,

general orders, diversions, yard-to-test track movements (through Manhattan), contractor access requests, and test communications procedures for safe train movements. He served as the primary liaison for CBTC interoperability to NYCT senior management, all internal stakeholder groups, and the competing suppliers under test.

Program Manager; MTA Maryland Bus Systems Program; Baltimore, MD; MTA (2006-2009)

Ted developed and implemented the Bus Data Fusion, a $14 million capital program that integrated 18 separate on-board and off-board systems. He developed the project charter, ConOps, all data flows, and all functional requirements for the included systems. Ted formed and led 10 interdepartmental work groups to re-engineer each major transit business process; conducted vendor negotiations; and developed definitions, schedules, and specifications for the resulting projects. He also served as project manager for MTA's paratransit dispatch and call center system upgrade.

Project Manager; WMATA Comprehensive Radio Communications System; Washington, D.C. (2002-2006)

Ted managed design, integration, and installations of a radio system throughout WMATA, including 3,000 rail, bus, police, and service vehicles.

Vehicle Engineering Manager, Department of Operations, Engineering; Washington Metropolitan Area Transit Authority, Washington, D.C. (1995-1998)

Ted managed unionized engineering staff in various fleet support activities, including developing specifications for new rail car procurement, engineering-related support equipment, new product test and evaluation, retrofit campaigns, vendor evaluation and management, warranty administration, and special projects. He was responsible for managing an annual capital improvement budget of $30 million, including planning and control of force account charges.

Associate and Senior Consultant; Transportation Systems Practice; Booz, Allen & Hamilton; Los Angeles, CA; Baltimore, MD; Washington D.C.; and Newark, NJ (1988-1995)

Ted managed and supported various new-start rail and other projects for transit authorities in North America. Projects included New Jersey Transit's Hudson Bergen Light Rail Transit, MTA Maryland's Central Light Rail Line, Los Angeles County Metropolitan Transportation Authority's Red Line heavy rail and Green Line light rail, and the U.S. Department of Energy's fuel cell bus and electric vehicle programs. Tasks included vehicle and signal engineering, resident engineering/procurement management, ticket vending machines, system safety certification, test witnessing and rail activation, new technology evaluation and implementation, economic analysis, and design-build-operate-maintain/turnkey procurements. Ted developed systems/equipment installation and test plans, including contractor and transit staff coordination, particularly for track access rights while significant construction work was continuing.

Frank Olsen-Tank

PLAN COORDINATOR

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Education
Master of Business Administration, Total Quality Management, Dowling College, 2001

Bachelor of Science, Accounting, C. W. Post College, 1977

Additional Coursework/ Training
Leading and Managing People, Columbia University, 2000

Project Management Certification Program, International Institute for Learning, 2002

Quality Systems Auditor ISO-9000, RABQSA, 1998

Profile Background

Frank has 27 years of experience involving the operations of railroads. He has a wide spectrum of knowledge and skills involving project management, construction management, strategic planning, and financial controls for Agency Force Account projects. As a Director of Force Account Management for the Long Island Rail Road (LIRR), Frank's responsibilities included planning, management, and oversight of signal, communication, track, structures, and power projects. While at LIRR Frank also served as the Principal Manager of Scopes and Estimates for capital improvement projects and Manager of Capital Planning.

Employment History

4/2009-present: Parsons
4/1982-4/2009: Metropolitan Transportation Authority Long Island Rail Road

Relevant Experience

Manager, Technical Services; ARC Trans-Hudson Express (THE) Tunnel Project; Northern New Jersey and Manhattan, NY; New Jersey Transit; Parsons (2009-present)

Frank is responsible for coordinating design reviews and contract documents for the $8 billion ARC Tunnel project, as well as organizing preconstruction condition surveys for the areas near tunneling construction. Parsons is providing project controls and construction management services for the Access to the Region's Core (ARC) Tunnel/Trans-Hudson Express Tunnel project, including design and constructability reviews and cost validation. The project will double the rail capability from New Jersey midtown to Manhattan, New York. Construction work includes platform, concourse, and track improvements to the existing Penn Station; two new single-track tunnels beneath the New Jersey Palisades and the Hudson River; reorganization of New York's Penn Station to the north under 34th Street between 6th and 8th avenues, improvements to rail infrastructure in New Jersey to provide expanded one-seat-ride opportunities to midtown Manhattan from various lines; and supporting investments, such as track improvements, rail yards, signal systems, and facilities.

Metropolitan Transportation Authority Long Island Rail Road; New York, NY

Director, Force Account Management (2006-2009): Frank served as the Director of Force Account management, responsible for leading project management teams on multiple railroad construction and design projects, including $240 million of signal projects, $125 million of communications projects, $340 million track projects, $50 million structures projects, and $130 million power projects. He interfaced with Metropolitan Transportation Authority (MTA) and Federal Transit Administration project oversight engineers. Frank also successfully replaced electromechanical relay systems installed in the 1930s to a microcomputer-based system for the Queens Interlocking project, the largest multi-disciplined infrastructure reconfiguration on Long Island Rail Road in decades. Additionally, he was responsible for the planning of the Valley Stream and Jamaica Stations' signal cut overs. The project teams won two MTA 2008 Chairman's Excellence in Construction Performance Awards for the Freeport Station Renovation and Track Rehabilitation Program.

Principal Manager, Scopes and Estimates (2002-2006): Frank served as the Principal Manager of scopes and estimates, responsible for managing the development of engineering asset condition surveys; strategy reviews; annual track outages; engineering project scopes; estimates; and schedules, including the development of the engineering department's $1 billion program and 20-year Needs Assessment. He also served as the Long Island Rail Road representative, responsible for interfacing with the Federal Transit Administration on federally funded programs.

Manager, Capital Planning (1995-2001): Frank served as the Principal Engineer of Communications and the Assistant Chief Engineer for planning and administration, responsible for directing all communications departmental forces. His responsibilities included finalizing the fiber optic network design with Telecordia, preparing the audio and visual public announcement system design, and negotiating the labor contract with the Brotherhood of Railroad Signalmen Union, which included work rule revisions. The communications department received the Metropolitan Transportation Authority Chairman Safety Achievement Award for reducing employee accidents.

From September 1995 to July 2001, Frank served as the Manager of Capital Planning, responsible for leading negotiations and managing the public-private partnering for the installation of a fiber optic network on Long Island Rail Road's (LIRRs) right-of-way. The letting of the breakthrough licenses entailed intense coordination between major telecommunication corporations, the Metropolitan Transportation Authority's legal and real estate departments, LIRR operations, labor relations, the Brotherhood of Railroad Signalmen Union, and capital programs. He managed the development of corporate communications and track infrastructure strategies and served as a major contributor to the corporate strategic business plan. Frank chaired the interdepartmental review and implementation of the operating rules for bicycle access requested by the LIRR Commuter Council, which resulted in a joint LIRR/Metro-North Railroad (MNR) policy and permit. He led the community outreach program for the new policy and gave public speeches and presentations. Frank managed the development of the engineering department's 20-year Needs Plan, including scopes, estimates, and schedules that dovetailed with approved strategies. He also served as the departmental DuPont Safety and Training Observation Program (STOP) Safety Trainer and Internal Control Review Manager. Frank managed the transition of asset-based map data into a geographical information systems (GIS) format for analyses, which was the foundation for the future funding of five-year capital programs. Additionally, he served as a member of the re-engineering team for critical business issues involving daily passenger train car availability.

From April 1982 to September 1995, Frank served as a Market Director, Principal Manager for engineering cost controls, an Accounting Supervisor for accounts payable, and Senior Accounting Analyst.

William Jagerburger, PE

PLAN COORDINATOR (POWER)

Firm
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Education
Bachelor of Science, Electrical Engineering, New York University, 1969

Registrations
Professional Engineer: New York, New Jersey

Professional Affiliations
IEEE Traction Power Sub-Committee

Profile Background

William brings more than 30 years of engineering experience in traction power design for four transit systems, including New York City Transit (NYCT), Port Authority Trans-Hudson (PATH), Staten Island Rapid Transit Operating Authority (SIRTOA), and Long Island Rail Road (LIRR). William currently serves as a Senior Engineer responsible for the CS081 (facility power) and CS084 (traction power) portions of the East Side Access project in New York City. His responsibilities include supervising eight engineers.

Prior to joining Parsons, William served as a Lead Engineer/Senior Engineer (PATH electrical design) responsible for supervising multiple discipline engineers and consultants and various PATH traction power projects. During his 16 years with NYCT, William served as a Division Manager of Design 11 (power engineering design), responsible for $250 million in capital programs and supervision of three to four professional engineers and 16 graduate engineers.

Employment History

9/2007-present: Parsons; New York, NY
5/1986-9/2007: Port Authority of New York and New Jersey
12/1970-5/1986: NYC Transit Authority, NY

Relevant Experience

Lead Electrical Design Engineer; MTA/LIRR East Side Access Project; New York, NY; MTA Capital Construction; Parsons (9/2007-present)

William supervised a staff of eight design engineers and two CADD operators for the preparation of design documents for: 80 MVA Bulk Power Substation, 4 Traction Power Substations, 10 Facility Power Substations, and a 2 MW 13.8 Kv Emergency Generator.

Lead Engineer; PATH Projects; New York and New Jersey (1986-2007)

William served as Lead Engineer for the replacement of traction power substations 7, 8, and 9 and direct current (DC) switching stations 6 and 10; as well as Lead Engineer for the replacement and upgrade of the Christopher Street traction power substation. His responsibilities also included the following:

- Reviewed and audited consultants' design documents for the restoration of downtown PATH service for the World Trade Center. This project included a 6 megawatt (MW) traction power substation, auxiliary power systems for the passenger station, duct banks, supervisory control and data acquisition (SCADA), signal infrastructure, and blue light stations.
- Prepared construction contract documents and reviewed shop drawings for PATH's 6 MW traction power portal substation.
- Reviewed and audited consultants' design documents and shop drawings for PATH's Harrison Main Repair Facility and rail yard. This project included an 8 MW substation for yard power and a 4 MW substation for shop power as well as associated power systems for the complex.
- Prepared a DC power study from Newark to Portal for the replacement or upgrade of traction power substations to support PATH's new alternating current (AC) propulsion train cars.

- Designed PATH duct bank replacement for 140,000 ft. of duct banks and cables, while maintaining train service.
- Reviewed and audited consultants' design documents for passenger platform extensions for 10-car train service from Newark to the World Trade Center.

SIRTOA Projects (1980-1981):

- Prepared contract construction documents and reviewed shop drawings for the 4 MW Grant City substation.
- Prepared contract construction documents and reviewed drawings for a new control center at St. George substation.
- Performed studies for additional substations on Staten Island.

NYCT Projects (1970-1986):

- New Routes projects, which included design for duct banks, substations, and cathodic protection of the 63rd St. tunnel.
- Various modernization programs for the Interborough Rapid Transit (IRT), Brooklyn-Manhattan Transit Corporation (BMT), and Independent Subway System (IND) systems, including substations; tunnel duct banks; passenger station extensions; and supervisory control and data acquisition (SCADA), control, and medium voltage power systems.

The above projects included, but are not limited to the following activities:

- Rehabilitation of old and the design of new traction power substations and auxiliary power substations; rehabilitation of subway lines; subway station renovation, modification, and installation; rehabilitation of manholes and duct lines; and installation of emergency vent fans, pumping equipment, supervisory control systems, stray current mitigation systems, and cathodic protection systems.
- System studies and measurement; implementation of codes and standards; equipment testing; and preparation of contract documents for projects that included power transformers, rectifiers, medium-voltage and low-voltage AC switchgear, DC switchgear, power distribution, motors and motor control centers, variable speed drives, direct wire control systems, battery systems, UPS equipment, intrusion alarm equipment, fire alarm systems, key interlock systems, and communication equipment. The work also included the removal of old electrical equipment such as MCC, switchgear, transformers, etc., while providing continuity of facility operations.
- Field inspection work in active substation and equipment rooms, bridge control rooms, and cable tunnels during off-hours and active hours to accommodate operational requirements.

Arthur W. Olson, Jr.

FIELD COORDINATOR (SIGNAL)

Firm
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Profile Background

Arthur has more than 38 years of experience in the railroad industry with the construction and maintenance of signal projects. Arthur's experience includes 24 years with the Long Island Rail Road's (LIRR) Signal Engineering department, where he held positions of increased responsibility for the maintenance and construction of LIRR's signal system. As a consultant, Arthur has served as a Project Engineer for the MTA's East Side Access project and as a Resident Engineer for New York City Transit projects. Arthur's broad-based experience with transit agency signal construction includes extensive experience with Agency Force Account logistics planning.

Employment History

11/2005-present: Parsons; New York, NY
1997-2005: EGIS, Inc.; New York, NY
1973-1997: Long Island Rail Road; Jamaica, NY
1966-1973: Transcontrol Corporation; Port Washington, NY

Relevant Experience

Senior Project Engineer, Signals; MTA/LIRR East Side Access Project; New York, NY; MTA Capital Construction; Parsons (2005-present)

Arthur is responsible for staging of Metro-North Railroad lower level signal cut-over, designing the layout for signal trough and cable routing, force account for stage one signals, and field inspection of signal wayside locations. He is also working with Metro-North and LIRR signal engineers to achieve a workable plan.

Parsons is providing all design services required to provide a fully functional four-mile underground extension of the LIRR into Grand Central Terminal, including all mitigating measures identified in the final environmental impact statement (FEIS). Parsons' primary role includes preliminary engineering, final design, and design support services for construction of the railroad and facility systems elements of the project. The project work includes all signaling, communications, traction power, overhead catenary, track work, and third rail systems, as well as all auxiliary power, station ventilation, fire suppression, fire alarm, and security systems.

Resident Engineer/Signal Engineer; MTA Automated Train Supervision Division A; New York, NY; MTA New York City Transit; Parsons (2006-2008)

Arthur was responsible for assisting New York City Transit (NYCT) engineers. His duties included field installations and modifications to existing circuits to enable train control from the new command center. He was also responsible for testing control and indication to command center and trouble shooting problems found while testing. The project involved providing engineering support services to NYCT during the contractor's detailed design, installation, and testing of a centralized traffic control system for NYCT's "A" Division, Interborough Rapid Transit (IRT), Lines 1-6 and 9, operating in Manhattan, Brooklyn, Queens, and the Bronx. Parsons managed a multi-disciplined team for control center design and implementation to provide hardware and software engineering for the systems to be installed at the Rail Control Center. The support services also included integration of all NYCT data and voice systems into the Automated Train Supervision system; improvements to the Rail Control Center facility for installation of the operating theater

and equipment rooms; and their architectural, electrical, structural, and mechanical support systems. The project also included interconnection with the existing NYCT backbone fiber optics network and the new integrated communications switch.

Senior Resident Engineer; EGIS, Inc.; New York, NY (1997-2005)

Arthur was involved in the Automatic Train Supervision systems project performed for NYCT's Department of Capital Program Management. As a qualified NYCT Signalman, he directed contractors during installation and breakdown testing and was responsible for in-service signal bulletins. Arthur reviewed circuit and installation drawings to ensure they complied with NYCT standards, repaired signal-related problems found during and after in-service testing, and designed rectifier circuits for Grand Central and Times Square interlocking model boards.

Signal Supervisor/Signal Foreman/Assistant Foreman/Signal Technician/Signal Maintainer; Long Island Rail Road; Jamaica Station, NY (1973-1997)

Arthur directed many projects while serving as Signal Supervisor in both maintenance and construction. He was responsible for tracking man-hours and progress, as well as solving problems. He assisted with the design and operation of a new signal control center in Jamaica, Queens, and supervised the testing and completion of the Mineola-Herricks Road crossing elimination project, as well as the Hempstead Branch Signal and Long Beach Yard renewal projects. In addition, he upgraded predictor crossing controls; directed the testing and troubleshooting of circuits; followed up on reported signal failures; performed breakdown testing on signal huts at vendors' warehouses before delivery to LIRR; supervised the installation and testing of new railroad crossing and signal locations; and tested apprentice signalmen for advancement.

As a Signal Foreman, Arthur established procedures for new Federal Railroad Administration and LIRR testing; supervised new switch installations at the Jay, Hall, Wantagh, Babylon, and Divide interlockings; instituted a new relay repair and material facility at the Babylon interlocking; directed signal forces in emergency situations; supervised execution and budget control for projects; and performed testing and circuit adjustments on signal cutovers.

As Assistant Foreman, he supervised the trouble desk; dispatched and directed personnel on trouble reports; and directed the Park Avenue Bayshore crossing elimination project.

As Signal Technician, he repaired and tested signal relays used throughout the LIRR system and tested and repaired signal cables. As a Signal Maintainer, he was responsible for the maintenance and testing of switches, signals, batteries, and compressors, as well as emergency repairs.

Edwin A. Lofgren

FIELD COORDINATOR (SIGNAL)/COST ENGINEER

Firm
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Education
George Meany Center for Labor Studies
Suffolk Community College
U.S. Army Engineering School

Additional Coursework/ Training
Advanced Signal Training, LIRR
Project Management, LIRR
Budgets & Contracts, LIRR

Profile Background

Ed has more than 40 years of experience in construction management and maintenance of railroad signal projects. Ed's experience includes 30 years with the Long Island Railroad's Signal Engineering department where he held positions of increasing responsibility for the maintenance and construction of the LIRR's signal system. Ed has also served as a Resident Engineer on a number of New York City Transit projects. Ed is fully versed with field installation and testing of transit signal systems.

Employment History

2006-present:	Parsons; New York, NY
2005-2006:	Maitra Associates; New York, NY
2000-2005:	Northeast Construction Services; New York, NY
1999-2000:	O'Brien Kreitzberg (URS); New York, NY
1968-1999:	Metropolitan Transportation Authority Long Island Rail Road

Relevant Experience

Senior Signal Engineer/Resident Engineer; MTA-NYCT Automatic Train Supervision; New York, NY; Parsons (2006-2008)

Ed served as Resident Engineer, representing NYCT to ensure contractor compliance with NYCT Signal installation procedures. Ed's responsibilities also included reviewing circuit drawings, reviewing change order requests, and field testing.

Test Engineer; NYCT Canarsie Communications-Based Train Control (CBTC); MTA-NYCT; New York, NY (2005-2006)

Ed provided inspection services for the NYCT Carnarsie CBTC project. He witnessed integration and interoperability tests for car borne equipment provided by Siemens & Alcatel; and ensured contract compliance with signal system requirements.

Resident Engineer; Staten Island Rapid Transit Signal Modernization Project; Staten Island, NY; SIRTOA (2000-2005)

Ed served as Resident Engineer, representing NYCT, and was responsible for construction oversight and contract compliance, including installation and testing of new signal and communication equipment. The project included installation of new electric switches, wayside signals, and automatic speed control.

Resident Engineer; NYCT Automatic Train Supervision (ATS) Project; New York, NY; MTA-NYCT (2000-2005)

Ed served as Resident Engineer, representing NYCT, and was responsible for ensuring contractor compliance with NYCT Signal installation procedures. His responsibilities included reviewing circuit drawings, testing, and reviewing AWO requests as required.

Metropolitan Transportation Authority Long Island Rail Road

Construction Foreman, Signal Engineering Department (1995-1999): As a Construction Foreman, Ed was responsible for managing LIRR Force Account Signal construction forces; performing field surveys and determining construction methods for signal system installations; interfacing new signal huts with the existing system; review

and approving as-built drawings; installation and testing of fiber-optic systems for signal supervisory control systems; and developing new LIRR testing procedures for Federal Railroad Administration (FRA) approval.

Staff Engineer, Signal Engineering Department (1991-1995): As Staff Engineer for LIRR Signal projects Ed was responsible for developing scope documents, design review, cost estimates, and resource-loaded schedules; coordinating track outages required for construction; monitoring schedule and budget; and ordering signal material required for construction.

Signal Inspector, Signal Engineering Department (1968-1991): As Signal Inspector for LIRR Signal projects Ed was responsible for supervising LIRR Force Account crews for new switch and signal installations, supervising testing in compliance with FRA Parts 233-236 and LIRR test procedures, and maintaining a database containing results for all field testing.

Jeffory B. Bossard

FIELD COORDINATOR (TRACK AND STRUCTURES)

Firm
PARSONS

Education
Bachelor of Science, Transportation Technology, Pennsylvania State University, 1977

Associate of Arts, Highway Engineering Technology, Pennsylvania State University, 1975

Profile Background

Jeff has more than 30 years of experience involving rail projects, including serving as Project Manager for a major construction program for Long Island Rail Road (LIRR). He has more than 10 years of experience serving as a Resident Engineer/Inspector on various rail projects nationwide. His project experience has ranged from the complex rehabilitation of New York's Penn Station to providing construction oversight of multiple station, rail, and signal projects. Jeff's responsibilities have included construction management; development of project controls for scope, cost, and schedule; and coordination with multiple contractors and agencies such as the New Jersey Transit, Amtrak, LIRR, and the New York Transit Authority.

Employment History

4/1998-present; 10/1977-2/1988: Parsons
1988-1998: Metropolitan Transportation Authority Long Island Rail Road

Relevant Experience

Systems Construction Phase Services Manager; East Side Access; New York, NY; MTA Capital Construction; Parsons (2006-present)

Jeff responds to all Force Account (F/A) (LIRR, Metro-North Railroad, Amtrak) issues related to the design. He ensures timely responses to requests for information and submittals, and coordinates all field work associated with the design. Jeff also provides constructability review for F/A work and F/A support required by third-party contractors.

Construction Manager/Superintendent; Manhattan Vehicle Maintenance Facility; Manhattan, NY; United States Postal Service; Parsons (2004-2006)

Jeff oversaw the project construction, safety, and deliverables. The project involved an $8.2 million structural rehabilitation repair of a four-story parking garage and maintenance facility.

Construction Manager; NJT Station and Parking Garage at Montclair State University; Montclair, NJ; New Jersey Transit; Parsons (2003-2004)

Jeff was onstruction manager for a design-build project that included an 800 ft-long center island platform with a connecting overpass to a seven-story, 1500 car paking garage. he reviewed completeness of final design for conformity with owner's 30% contract design package as well as monitor all construction activities for compliance with all final design documents. he also arranged all force account support by NJ Transit, including track outages.

Liaison for Rail Operations; Newark International Airport Monorail Northeast Corridor Station, Construction Management; Newark, NJ; New Jersey Transit Corporation; Parsons (1998-2002)

Jeff ensured the responsiveness and uniformity of all project deliverables, provided efficient responsive management of all individual tasks or activities, supported all rail construction activities during construction, produced monthly reports and invoices, and coordinated the preparation of the monthly progress reports. Parsons served as the construction manager for the New Jersey Transit, Port Authority of New York/New Jersey, and Amtrak rail station connection between the Newark Airport Monorail and Amtrak's Northeast Corridor (NEC). The

project involved construction of an intermodal railroad station on Amtrak's NEC, serving Newark International Airport via a transfer from New Jersey Transit or Amtrak to the airport monorail system. The new multimodal station consisted of two 1,050-ft. island platforms on the NEC connected by a 225-ft.-long overhead pedestrian bridge to a 26,000-sq.-ft. monorail station building with an elevated pedestrian platform for access to the monorail system. The monorail terminal was constructed to provide baggage check-in and airline ticketing facilities.

Project Manager; Capital Program Management; Jamaica, NY; Long Island Rail Road (1988-1998)

Jeff was responsible for scope management, schedule and budget controls, and management of multi-task, multi-firm project teams. He oversaw and managed the work scope, designs, specifications, cost estimates, and construction work. Jeff also managed, directed, and evaluated the work activities of consulting engineers and coordinated project activities with other capital program management staff and user departments. The program involved various projects, including the Manhattan side access alternative study and draft environmental impact statement; the Montauk viaduct rehabilitation, a major, multi-million structural rehabilitation project; the Penn Station New York improvement project, a $100 million rehabilitation effort to improve mobility, access, passenger amenities, and information; the Penn Station New York track improvements project, which involved close coordination with Amtrak and included a direct-fixation track; the Ronkonkoma hub project, which included a parking garage, station building, parking lots, and retail buildings; the East River tunnel life safety project that involved Amtrak, the Long Island Rail Road (LIRR), and the New Jersey Transit, and included an emergency communications system and ventilation studies; the East River tunnel improvements project, which involved tunnel lighting replacement, bench wall repairs, tunnel grouting, handrail replacement, and sump pump replacements; the LIRR access to Manhattan's east side feasibility study; and the St. James and Sea Cliff restoration and diesel fleet high-level platform project, which included the design and construction of high-level platforms at 34 stations to accommodate new diesel fleet.

Railroad Engineer; Buffalo Light Rail; Erie County, NY; Niagara Frontier Transportation Authority; Parsons (1981-1985)

Jeff was responsible for the inspection of trackwork construction, including mall girder rail track, tunnel direct-fixation track, ballasted timber-tie trackwork, continuous floating slabs, and installation of discontinuous floating slabs with grout pads and turnouts.

David Greener

FIELD COORDINATOR (SIGNAL)

Firm
PARSONS

Profile Background

David has 24 years of railroad experience specializing in communications and signal construction, including supervision, fabrication, and installation of new signal and train control systems. He has managed and supervised force account personnel during all phases of field construction, systems testing, and implementation of signal and communications systems.

David's experience continues with system testing, maintenance, and troubleshooting new and existing signal systems. He has been responsible for estimating, scheduling, and strict compliance with Amtrak's standard plans and engineering practices, including other mandated requirements such as Federal Railroad Administration (FRA), Association of American Railroads (AAR), Occupational Safety & Health Administration (OSHA), and Amtrak's C&S 23/C&S 27.

Employment History

5/2009-present:	Parsons, New York, NY
4/2000-5/2009:	Ansaldo STS, Hamilton, NJ
1997-2000:	Consultant
1984-1997:	AMTRAK

Relevant Experience

Senior Technical Consultant; MTA/LIRR East Side Access; New York, NY; MTA Capital Construction; Parsons (2009-present)

David is providing design and construction support of systems for the MTA/LIRR East Side Access project. He reviews contractor submittals, support installations, and testing and cutovers. David coordinates with other disciplines for systems integration and constructability. Parsons is providing all design services required to provide a fully-functional, four-mile underground extension of the LIRR into Grand Central Terminal, including all mitigating measures identified in the final environmental impact statement (FEIS). Parsons' primary role includes preliminary engineering, final design, and design support services for construction of the railroad and facility systems elements of the project. The project work includes all signaling, communications, traction power, overhead catenary, track work, and third-rail systems, as well as all auxiliary power, station ventilation, fire suppression, fire alarm, and security systems.

Signal Engineer; PATH, Downtown Restoration for Exchange Place, World Trade Center and Grove and Junction Interlockings; New York, NY and Jersey City, NJ; PATH (2002-2003)

David assisted the project team with overall systems testing and implementation of a new Programmable Logic Controller (PLC)-based signal system. The project included Implementation of a new PLC-based Microlok communication and signal system operated and maintained by PATH.

Systems Engineer; Contract 11-F/Port Authority Transit Corporation (PATCO) High Speed Line Supervisory Control and Data Acquisition (SCADA) and Centralized Train Control (CTC) Upgrades; Camden, NJ; Delaware River Port Authority (2003-2005)

David managed the installation and testing of 16 new non-vital field Microlok SCADA/CTC systems and a PC-based office control network.

Project Engineer, Contract S-32730 Signal System Modernization of Three Interlockings; New York, NY; NYCT (2006-2009)

David was responsible for managing the overall contract requirements, design, schedules, and budget to provide three complete relay based interlockings with control panels and code systems, including wayside equipment enclosures, switch machines, trip stops, and wayside signals for the NYCT subway system. The project involved a complete renewal of three interlockings (World Trade Center, Chambers Street, and Canal Street) owned and operated by NYCT.

Systems Engineer; Advanced Speed Enforcement System (ASES); Kearney, NJ and Bear, DE; New Jersey Transit (2000-2002)

David was responsible for on-site materials, equipment, and on-board systems testing of new micro cab equipment. He participated in the factory testing of two new ALP-46 locomotives at Bombardier's manufacturing facility in Kassel, Germany. The project involved retrofit of New Jersey Transit locomotives and cab cars with new on-board micro-cab units.

Consultant (1997-2000)

David performed signal engineering services on NJT's advanced speed enforcement system (ASES). The assignment included programming, installation, and testing of encoders with active and passive transponder groups.

AMTRAK (1984-1997)

David progressed from maintaining signals to a signal construction supervisor.

Raymond C. Paice

FIELD COORDINATOR (SIGNAL)

Firm

PARSONS

Education

Associate of Science, Electronics Technology, Penn Technical Institute, 1979

Additional Coursework/ Training

Continuing Education courses in microprocessors, telecommunications, computer-aided design, and business, Capitol College, 2001

Certified Parsons Project Manager, Parsons, 2008

Professional Engineering Review, University of Maryland, 1997

Courses in solid state logic and operational amplifiers, Wentworth Institute of Technology, 1994-2000

Professional Affiliations

Maryland Mass Transit Administration, Test Manager, Member, 2004-date

Profile Background

Ray has more than 30 years of signaling experience with expertise involving project and systems management, capital planning, directing facility force account work, engineering, testing, activation, and systems start-up for a variety of projects associated with Light Rail, Heavy Rail, Commuter Rail, and Freight.

Employment History

10/1990-present: Parsons, Maryland
1989-1990: Port Authority Trans-Hudson (PATH), New York, NY
1985-1989: Maryland Transit Authority, Baltimore, MD
1984-1985: Massachusetts Bay Transportation Authority, Boston, MA
1979-1984: Union Switch and Signal Division, Swissvale, PA

Relevant Experience

Principal Signal Engineer; Houston Metro Professional Services for Metro Solutions Program; Houston, TX; Metropolitan Transit Authority; Parsons (2008-present)

Ray is responsible for signaling systems specifications, drawings, and cost estimating. Parsons is responsible for designing, building, operating, and maintaining the expanded light rail system, which will include four new corridors totaling approximately 20 miles of light rail transit, 34 stations, storage and inspection facilities, and major renovations to the existing operations center. The project also includes 103 light rail vehicles that are 100 % low-floor, the first 100 % low-floor vehicles to be purchased for the U.S. market.

Project Manager/Principal Signal Engineer; Systems Construction Management Service 0974B; Baltimore, MD; Maryland Transit Administration (MTA); Parsons (2008-present)

Ray is responsible for managing all aspects of Parsons' on-call systems engineering contracts with the MTA. Task orders issued by the MTA as part of the contracts are classified as systems work for either design and construction management or of both. The on-call services involve providing the MTA with a complete range of systems engineering services for all modes of transportation. The services include train control, traction and signal power, overhead contact system, fare collection, communications, and corrosion control.

Deputy Project Manager/Principal Signal Engineer; MTA On-Call Systems Engineering Services 0973A; Baltimore, MD; MTA; Parsons (2003-2009)

In the absence of the Project Manager, Ray was responsible for managing all aspects of Parsons' on-call systems engineering contracts with the MTA. Task orders issued by MTA as part of the contracts were classified as systems work for either design and/or construction management of both. As Principal Signal Engineer, he was responsible for assisting the MTA's construction management team by performing reviews of the light rail line double track train control system for constructability, systems operation, maintenance of equipment, testing, and final acceptance.

Senior Manager/Principal Signal Engineer; On-Call Systems Engineering Services; Baltimore, MD; MTA; Parsons (2000-2005)

Ray was responsible for all signal engineering activities associated with the MTA's systems engineering and design services contract. He was responsible for the design of the new light rail

signaling system installed as part of the MTA's Double Track Program. Some of the tasks included development of the design criteria for a cab-signaled automatic train protection signaling system to replace the existing automatic block signaling system. Raymond was also responsible for specification and contract drawing development which included modifications to the light rail vehicle braking and propulsion systems with the installation of an automatic train protection carborne package. He provided the engineer's cost analysis for the baseline program and various cost options, staging and implementation plan, and installation schedule.

Lead Engineer; MTA On-Call Systems Engineering Services 0834; Baltimore, MD; MTA; Parsons (2000-2005)

Ray provided the MTA with engineering construction estimates for the MARC service extension to Frederick, Maryland. He developed the specifications and signaling circuits for the project, as well as the engineer's cost estimates and detailed staging plans for the implementation of a new cab signaling system to be placed in service as part of the MTA double-tracking project. He furnished the MTA with a detailed design for magnetic train stops to be installed at the Mount Royal Interlocking. Raymond's tasks included a detailed systems design, materials list, signal and wiring drawings, test procedures, test services, and final as-built drawings. He wrote detailed signaling test procedures for the Cromwell Yard, Dorsey Interlocking, and Hamburg Station projects. The procedures included such tests as cable meggering, equipment grounding, static, integration and operations of systems, dynamics, safety certification, and final acceptance.

Rail Activation Manager; Central Light Rail Line On-Call Engineering and Design Services, Phases I and II; Baltimore, MD; MTA; Parsons (1995-1997)

Ray was responsible for the Phase II 9.5-mile extension of the MTA's Central Light Rail Line (CLRL) and installation of a mainline interlocking and extended double track section under the Patapsco River Bridge. Activation tasks such as, but not limited to included Manpower Requests, Track Access requests, directing weekly activation meetings, overseeing the day-to-day activation activities and schedule development for implementation of systems planning. He also identified activation forces and schedule conflicts during construction; developed alternative schedules; developed client staffing plans and hiring needs to accommodate rail expansion programs; and managed training programs.

Senior Engineer; PATH; New York, NY (1989-1990)

Ray was responsible for new construction signaling system projects. As part of his responsibilities, he directed installation forces in efforts such as the Harrison Yard mainline interfaces, the Newark Station Operating revisions, and the Caissons signaling room upgrade. During the Construction process he developed cut-over documentation and track access requests that included the planning of agency equipment for usage during project implementation. This effort also included the development of manpower and additional track access requests. As Senior Engineer, he was also in charge of signals engineering where he directed engineering teams in detailed designs that were used to modify the existing signaling system for new projects and existing upgrades. He developed schedules to prioritize the engineering and construction effort for various projects that included sequential implementation while minimizing service disruptions. As the deputy to the Superintendent of Signals, Ray also participated in the development of annual budgets for new construction projects, maintenance, and engineering services, which included planning needs for Capital Improvement Programs.

Senior Systems Engineer; MTA; Baltimore, MD (1985-1989)

Ray served as the Resident Signal Engineer for heavy and light rail projects; reviewed specifications and contract documentation; analyzed circuit design applications, installation, test procedures, failure and effect mode analyses, and final acceptance testing; reviewed and approved payment for work completed by contractors; and represented the MTA in contract change negotiations.

William "Rocky" Alexander

FIELD COORDINATOR (SECURITY)

Firm
PARSONS

Education
Associate of Science, Criminal Justice, Community College of the Air Force, 1988

Bachelor of Arts/Masters of Business Administration (Combined Program), Columbus University, 2000

Additional Coursework/ Training
Malcolm Baldrige National Quality Program, Facilitator and Examiner, National Institute of Science, 1995

Microsoft Network Administration Certification Training; Tri-Soft Networks; Annandale, VA; 1998

Certifications
American Society of Industrial Security, Member, 2003-date

Air Force Security Police Association, Member, 1980-date

Profile Background

Rocky has more than 34 years of experience designing, installing, and operating complex, state-of-the-art electronic security systems that protect critical national defense and commercial resources. He successfully directed multi-million-dollar security construction projects as both a government end-user and government contractor. He also served as the Security Program Manager for the Dulles Airport Expansion Program. In each assignment, William led a diverse team of security specialists, electrical and civil engineers, information technology professionals, and installation teams; developed security requirements and schedules for design, installation, and implementation; identified individual components across the security spectrum; and designed electronic security systems. He also provided subject-matter expertise at joint construction progress meetings, coordinating all aspects of security system integration to meet overall construction schedule critical-path milestones.

Employment History

7/2003-present: Parsons, New York, NY
3/2003-8/2007: Advanced Security Engineering Corporation, Springfield, VA
2/2002-3/2003: Mantech Security Technologies Corporation, Glen Echo, MD
2/1999-12/2001: Radian, Inc., Alexandria, VA

Relevant Experience

Security Discipline Lead; MTA/LIRR East Side Access; New York, NY; MTA Capital Construction; Parsons (2007-present)

Rocky is responsible for developing new security design criteria, including the completion of all design activities to protect facilities, operations, employees, and passengers; coordination of requirements with other disciplines; development of plans and procedures for certifying security requirements in accordance with federal regulations; and service as principal security consultant to the design team and MTA Capital Construction staff.

Security Consultant; 9th Avenue & 31st Street Development; New York, NY; Brookfield Properties Development; Parsons (2008)

Rocky provided security consulting and electronic security system design services to protect Metropolitan Transportation Authority and AMTRAK rail operations impacted by the client's construction project. Parsons provided program management for an air rights project over the LIRR, Amtrak, and New Jersey Transit tracks west of Penn Station. The project includes the construction of 3.5 million sq. ft. of structures on a site that is traversed by 1,200 trains per day.

Senior Security Specialist; Port Authority Call-In Security Consulting Services; New York, NY; Port Authority of New York and New Jersey; Parsons (2004)

Rocky developed alternatives for protecting portions of the structure from terrorist attacks. Specific tasks and studies were omitted for security reasons. Parsons' analyzed threats and risks to a major suspension bridges and developed alternatives to mitigate vulnerabilities and reduce the risks. A vulnerability analysis was completed by others.

Principal Security Specialist; TVRA 7 Line Design; New York, NY; MTA; Parsons (2007)

Rocky served as security subject-matter expert on multi-discipline teams to complete threat, risk, and vulnerability assessments of existing and planned subway stations, commuter rail

terminals, underground and underwater tunnels, and administrative and support facilities owned and operated by the MTA and its five operating agencies. He acted as Lead Security Specialist for task orders to design physical and electronic security systems at rail terminals, subway stations, and bus depots in all five New York City boroughs. The project involved multiple task orders to provide engineering support services related to security of transportation assets throughout New York City.

Senior Security Specialist; Tappan Zee Bridge Security Project; Nyack and Tarrytown, NY; New York State Thruway Authority; Parsons (2005-2006)

Rocky conducted risk-threat-vulnerability assessments; developed electronic and physical security solutions to eliminate, reduce, or mitigate risks and vulnerabilities; developed detailed design and construction documents; and provided consulting and oversight services during the construction phase.

Principal Security Specialist; MTA Systemwide Security Program; New York, NY; MTA; Parsons (2004-2008)

Rocky served as security subject-matter expert on multidiscipline teams to complete threat, risk, and vulnerability assessments of existing and planned subway stations, including commuter rail terminals, underground and underwater tunnels, and administrative and support facilities owned and operated by the MTA and its five operating agencies. He also acted as Lead Security Specialist for task orders to design physical and electronic security systems at rail terminals, subway stations, and bus depots in all five boroughs.

Senior Security Specialist; Gowanus/Prospect Expressway Rehabilitation; Brooklyn, NY; NYSDOT Region 11; Parsons (2003-2004)

Rocky conducted risk-threat-vulnerability assessments; developed electronic and physical security solutions to eliminate, reduce, or mitigate risks and vulnerabilities; provided recommendations for enhancing protection against terrorist attacks; and analyzed potential vulnerabilities and risks for four proposed tunnel alternatives under consideration by the client.

Senior Security Specialist; Two Major Rail Station Security Recommendations; New York, NY; MTA/LIRR (2003)

Rocky evaluated security recommendations developed by others, analyzed proposed solutions, and developed alternatives for client consideration when recommendations were not sufficient to adequately address terrorist threats and vulnerabilities. Specific tasks and studies are omitted for security reasons.

Senior Security Specialist; Rail Control Center Security Recommendations; New York, NY; Metropolitan Transportation Authority/New York Transit Agency (2003)

Rocky conducted a risk-threat-vulnerability assessment; developed electronic and physical security solutions to eliminate, reduce, or mitigate risks and vulnerabilities; and provided recommendations for enhancing protection against terrorist attacks.

Senior Security Specialist; Security Enhancement; New York, NY; Metropolitan Transportation Authority (2003)

Rocky served as the lead security subject matter expert assigned to complete the detailed risk-vulnerability analysis. He directed teams to complete risk-threat-vulnerability assessments and preliminary cost estimates for integrated security systems at 52 sites (major subway and commuter rail stations, New York City bridges and tunnels, and agency control centers), developed recommendations for enhancing protection at these facilities, and completed Federal Emergency Management Agency (FEMA) grant applications to obtain federal funding for top priority projects.

Thomas G. Berry

FIELD COORDINATOR (SECURITY)

Firm
PARSONS

Education
Associate of Science, General Engineering, Jefferson Community College, 1981

Additional Coursework/ Training
On-Guard Field Hardware Installation, LENEL Corporation, 2007

On-Guard Software Installation, LENEL Corporation, 2007

System Trouble Shooting, LENEL Corporation, 2007

Profile Background

Tom has experience supervising the installation of access control, intrusion, and closed circuit television (CCTV) systems worldwide. His experience includes security system designs, maintaining program schedules, and overseeing subcontractors and installation teams.

Tom's experience includes reviewing requests for proposals (RFPs) and statements of work; preparing and specifying engineering designs for access control, intrusion detection, and CCTV systems and their integration; and writing responses and technical proposals for RFPs. Through his work experience, he has also gained an overall knowledge of the design, proposal, installation, testing, training, documenting, and customer acceptance processes of the aforementioned systems.

Employment History

8/2009-present: Parsons, New York, NY

2/2007-2/2009: Tyco ADT, Advanced Integration Division; Norristown, PA

Relevant Experience

Technical Consultant/Security Design Engineer; MTA/LIRR East Side Access Project; New York, NY; MTA Capital Construction; Parsons (2009-present)

Tom is responsible for developing the design for physical and electronic security for the LIRR extension; completing design activities to protect facilities, operations, employees, and passengers; and providing expert consulting services for interface requirements with the fire, communications, electrical, and architectural trades. In addition, he coordinates all aspects of security system integration. Parsons is providing all design services required to provide a fully functional four-mile underground extension of the LIRR into Grand Central Terminal, including all mitigating measures identified in the final environmental impact statement (FEIS). Parsons' primary role includes preliminary engineering, final design, and design support services for construction of the railroad and facility systems elements of the project. The project work includes all signaling, communications, traction power, overhead catenary, track work, and third-rail systems, as well as all auxiliary power, station ventilation, fire suppression, fire alarm, and security systems.

On-Site Technical Supervisor; Exxon Mobil; Africa (2007-2009)

Tom was responsible for maintaining program schedules and overseeing site surveys, technical design packages, and as-built drawings, as well as coordination between the subcontractors and installation teams. The project entailed the completion of an access control and CCTV enterprise security system, which encompassed two countries and six regions.

Jeffrey Pringle

FIELD COORDINATOR (FLEET)

Firm
PARSONS

Education
Bachelor of Science, in Science, Temple University, 1977

Additional Coursework/ Training
Advanced Negotiations Strategies, American Management Association, 2007

BUDD Company Executive Development Program, Drexel University, 1986

A.A.I. Corporation Executive Development Program, In-House Training, 1998-2000

Professional Affiliations
American Public Transportation Authority (APTA), Associate Member, 2002-date

Society of Manufacturing Engineers, Computer Aided Society of America, Member, 1984-1987

Profile Background

Jeff has more than 34 years of broad-based operations experience in rail vehicle manufacturing and engineering with a focus on program management. He has developed numerous successful large-scale program teams for industry-leading vehicle manufacturers and transit authorities. Jeff has experience with rail programs in excess of $1.2 billion for the second largest transit authority in the United States. He has experience involving program management, operations management, budget development/achievement, strategic planning, procurement, contract negotiations, and employee relations in union and non-union environments.

As a Senior Program Manager, Jeff has experience directing and managing design, procurement, and rehabilitation of all rail-car rolling stock for the Washington Metropolitan Area Transit Authority, ensuring quality-driven acquisitions of high-value vehicles. He has led technical review teams to evaluate multiple proposals for rolling stock to achieve the best value procurement. Jeff directed the next generation rail-car specification "7000 Series" to meet the expanding needs of the Authority, utilizing successful past designs and industry review. He has extensive rail industry technical knowledge of leading manufacturers and operations, engineering and maintenance (OEM) suppliers, vehicle procurement, the manufacturing process, tooling, facility industrialization, and vehicle commissioning. Jeff's program knowledge includes advanced Integrated Project Team (IPT) partnering and negotiation skills during both program selection and close out phases.

Employment History

11/2008-present: Parsons, Westminster, MD
11/2001-11/2008: Washington Metropolitan Area Transit Authority, Washington, DC
11/1995-11/2001: AAI Corporation, Hunt Valley, MD
10/1994-11/1995: American Track Systems, Shrewsbury, PA
05/1987-10/1994: Knorr Brake Corporation, Westminster, MD

Relevant Experience

Technical Director Vehicle; Houston Metro Professional Services for Metro Solutions Program; Houston, TX; Metropolitan Transit Authority (Harris County, Texas); Parsons (2007-present)

Jeff is responsible for providing the vehicle supplier with the necessary project oversight, including technical direction, manufacturing guidance, specification compliance, vehicle integration, and gap analysis. Parsons is responsible for designing, building, operating, and maintaining the expanded light rail system, which will include four new corridors totaling approximately 20 miles of light rail transit, 34 stations, storage and inspection facilities, and major renovations to the existing operations center. The project also includes 103 light rail vehicles that are 100 % low-floor, the first 100 % low-floor vehicles to be purchased for the U.S. market.

Senior Program Manager; 7000 Series Rail Vehicle Specification; Washington, DC; Washington Metropolitan Area Transit Authority (WMATA) (2001-2008)

Jeff was responsible for budgeting and technical results. The project involved development of

next-generation rail vehicle specifications with WMATA's in-house and consulting engineering team.

Senior Project Manager; District of Columbia Department of Transportation Light Rail Vehicles; Washington, DC; District of Columbia Department of Transportation (2004-2007)

Jeff was responsible for oversight of the project team. The project involved procurement of light rail vehicles for the Department of Transportation Demonstration Project.

Senior Program Manager; 2000/3000 Series Overhaul Program; Washington, DC; WMATA (2004-2008)

Jeff was responsible for oversight of the project team. The project involved the mid-life overhaul program of 364 heavy rail vehicles valued at $395 million.

Program Manager; 6000 Series Rail Vehicle Procurement; Washington, DC; WMATA (2001-2006)

Jeff was responsible for management of the rail vehicle team from the proposal stage through vehicle commissioning, to acceptance. The project was valued at $400 million. The project involved development of vehicle specifications for procurement of 184 heavy-rail vehicles for WMATA.

Director of Operations/Senior Program Manager; AAI Corporation; Hunt Valley, MD (1995-2001)

Jeff developed and directed high-value transportation division programs with budgets exceeding $280 million for major transit authorities and primary transit vehicle suppliers. He successfully implemented an effective partnering (IPT) approach with customers and subcontractors at executive and team levels. Jeff also directed the Manufacturing Services Divisions operation, which provided heavy manufacturing capabilities required by Defense and Transportation Divisions. He was responsible for continual development and implementation of long-range plans and goals for the corporation. Jeff expanded the core manufacturing proficiency of the division, while redefining an aggressive outsource program for labor and materials.

Vice President Manufacturing Operations; American Track Systems; Shrewsbury, PA (1994-1995)

Jeff managed an 80,000 sq. ft. manufacturing facility for multiple project based customer requirements. He reestablished procedures for project management and procurement efforts to surpass organization goals.

Vice President, Operations; Knorr Brake Corporation; Westminster, MD (1987-1994)

Jeff was responsible for directing operations at a manufacturing facility with an operating budget of $25 million. His duties also included profit and loss, regulatory compliance, and operations support to the Canadian subsidiary.

Brian J. Finn

FIELD/PLAN COORDINATOR (POWER)

Firm
PARSONS

Education
MBA, Total Quality Management, Dowling College, 1998

BT, Electro-Mechanical Computer Technology, New York Institute of Technology, 1980

Additional Coursework/ Training
Columbia University Graduate School of Business-Leading and Managing People Program, Nov. 1999

Professional Affiliations
IEEE

AREMA

MTA Blue Ribbon Panel

FRA Task Force member

APTA

Profile Background

Brian is a Chief Engineer with more than 25 years of engineering management experience with a history of increasing responsibility and scope. He has demonstrated accomplishments in Operations, Engineering Infrastructure. Brian has excellent communication skills, including extensive interaction with executive management.

Employment History

2009-present: Parsons, New York, NY
1982-2009: Long Island Rail Road

Relevant Experience

Chief Engineer, Long Island Rail Road (2004-2009)

As the Chief Engineer for the nation's largest commuter railroad, Brian is a professional transportation official with over 28 years of progressive experience in various engineering disciplines. Brian's experience includes:

- Providing leadership, guidance, and direction to the Engineering Department including safety, operations, construction, design, and maintenance for the fixed property.
- Knowledge of all engineering disciplines including signal, track, structure, power, and communications as they relate to the safe and reliable operation of the Railroad.
- Planning for future capital programs including development and maintenance of discipline-specific strategies and coordination of work responsibilities.
- Providing senior management with accurate and timely information for policy decisions.
- Managing the department budget including operating and reimbursable spending.
- Overseeing the expansion of ISO 9001 certification for all engineering disciplines.
- Active participation in industry standards development; including AREMA, IEEE, and the FRA (RSAC Task Force).
- Representing MTA and LIRR on various task forces including Senior Management, MTA Board, DEP/DWP/DOT flood control, MTA Blue Ribbon Panel, and MTA Chief Engineers' best practices, including bridge inspection repair, and a presentation to the MTA Board members.
- Coordinating planning efforts with local and state agencies, including counties, villages, engineers, and Amtrak chief engineers.
- Management of multi-million dollar projects from conception to completion including scope schedule and budget responsibility, resulting in a quality product.

General Manager/Engineering Infrastructure; LIRR (2002-2004)

- Managed the engineering operation for the Chief Engineer when he was not available. Duties included budgeting and cost control.
- Responsible for the LIRR Track Geometry Car measurement and operation, including implementing functions to improve the infrastructure such as data collection and analysis, defect reporting criteria, clearance features, third-rail measurements, and Gage Restraint Measurement System (GRMS).
- Supervised infrastructure maintenance and operations at Penn Station and West Side Yard.

Duties included managing team to ensure a safe and reliable infrastructure including the East River Tunnels. Also supervised the development of the strategic Business Plan and the 20-year needs for these areas.

- Coordinated Engineering Department Dupont Safety initiatives and developed safety-training programs as it related to electrical safety.
- Acted as Department Liaison with Labor Relations for contract negotiations with various union organizations.

Assistant Chief Engineer- Power; LIRR (1998-2002)

- Responsible for the Operation, Maintenance, and Construction of the Entire Power infrastructure, including Substations, Third Rail, Design, High Tension, and Electric Light and Power.
- Provided a safe power system for the riding public and employees, ensuring environmental conditions are remedied and safe work practices were communicated and used.
- Managed a $19 million budget, including Operating and Reimbursable budget, with a staff of over 300 employees to accomplish these duties.
- Supervised the development of Power strategy for fleet compatibility for Traction Power to infrastructure improvements.
- Coordinated work schedules with Capital Programs, Engineering, and Operating Departments to maximize infrastructure improvements while minimizing service disruption
- Planned and coordinated work with other agencies; including Amtrak, LIPA, Con Edison, NYPA, ESA, and many local communities.
- Developed managers for upward mobility and ensured the division was structured for succession.
- Implemented infrastructure improvements for a state of good repair program based on 20-year needs for the Power Department.

Principal Engineer to Designer Electrical; LIRR (1982–1996)

- Held various positions within the Company, all with increasing responsibilities that included the following duties:
- Prepared, reviewed, and approved specifications and design documents for numerous power improvements, including major construction projects such as West Side Yard, Main Line Electrification, Hillside Facility, 25 Cycle Elimination, and Richmond Hill Shop.
- Prepared budgets for each division, reviewed and approved utility traction power bills, assisted in Labor negotiations, prepared, developed, and maintained a zero-based budget for cyclical maintenance; prepared scopes, schedules and estimates for construction projects.
- Developed and implemented training programs for employees; handled labor disputes; prepared a safety manual for employees in all divisions; responded to emergencies; and ensured manpower was scheduled to support operations. Conducted investigations into incidents and provided recommendations for improvements.

Yuly Aronson, PE

COST ESTIMATING

Firm
PARSONS

Education
Bachelor of Science, Engineering Administration, Worcester Polytechnic Institute, 1982

Registrations
Professional Engineer, [redacted] NY
Professional Engineer, [redacted] CT

Professional Affiliations
Association for the Advancement of Cost Engineering (AACE), Member, 2008-date
Society of Value Engineers, Member, 1991-1993

Profile Background

Yuly has more than 26 years of engineering experience in the construction industry. As a licensed Professional Engineer, he has worked as a chief estimator, project controls, and structural engineer. Yuly's experience includes hard-bid and budget estimating; project planning, schedule, and controls; managing airport projects; public works, transportation; rail and underground systems; bridges, tunnels, heavy construction, and highways; and industrial, commercial, residential, institutional, and educational facilities. He has extensive experience reviewing and tracking designs against budgets, as well as performing design reviews and value engineering on large projects, such as the New World Trade Center Hub ($3 billion), the Lusail Light Rail project in Qatar ($2 billion), and the Accelerated Bridge Program for Massachusetts Highway Department ($2 billion). Yuly is skilled in technology and industry software and can easily prepare reports and spreadsheets to manage the work.

Employment History

5/2008-present: Parsons, New York, NY
1993-2007: PACO Group, New York, NY

Relevant Experience

Senior Estimator; New World Trade Center Hub; New York, NY; Port Authority of New York and New Jersey (2007-2008)

Yuly prepared the take-off of quantities and other data required to develop construction cost estimates for divisions 2 through 14.

Chief Estimator; Miami Rail Yard; Miami, FL; Miami-Dade Transit; Parsons (2008-2009)

Yuly prepared the quantity take-offs and pricing required for developing the design development cost estimate of work for new maintenance and storage tracks. The project involves final design and design services during construction for the North Corridor Metrorail Extension of the Miami heavy rail system. The 9.5-mile elevated, double track rail extension includes seven stations serving the NW 27th Avenue corridor; northern Miami-Dade County, Opa-Locka, and Miami Gardens communities, the Miami-Dade College North, the Calder Race Track, and Dolphin Stadium.

Budget Estimator; Lusail Light Rail System; Qatar; Qatari Diar Real Estate Investment Company; Parsons (2008)

Yuly prepared the detailed budget estimate for the train stations and seven depot buildings, using conceptual design drawings, reports, and preliminary specifications, as well as the local construction cost database. The project involves the conceptual design and preliminary engineering of approximately 37 km of a new light rail system intended to serve 250,000 new inhabitants in the city of Lusail, which is located in Doha, Qatar. The task of the design team includes the development of station concepts and preliminary engineering for 35 train stations. The station designs include the development of standard at-grade and underground stations, adaptable to variable location requirements within the system. Other concepts include the development of transfer stations linking different system lines, as well as the development of

link stations to a future regional rail system. All at-grade stations include air conditioned shelters and shading canopies to limit exposure to the Middle Eastern sun. Below-grade stations include air conditioned concourses and passenger platforms, as well as additional spaces designated for retail, prayer rooms, and connections to adjacent underground car parks. Some of the major challenges of this project are to develop an underground structure capable of withstanding an extremely high water table and to accommodate very high air volumes required for tunnel ventilation and station air conditioning, with both conditions affecting space configuration and functionality. The design effort also includes the development of a vehicle maintenance facility, serving an anticipated fleet of 30 to 40 rail vehicles.

Chief Estimator; Miami International Airport, Regional Commuter Facility; Miami, FL (2008-present)

Yuly is providing hard-bid estimates for the proposed contract for terminal additions. He is responsible for preparing quantity take-offs and pricing required for developing a hard bid construction cost estimate of work for divisions two through five.

Estimator/Scheduler; Metropolitan Transportation Authority Police Station; Jamaica, NY; LIRR (2006-2007)

Yuly was responsible for estimating and scheduling activities. The project included the conversion of existing space into the new MTA Police Station.

Chief Estimator; Statewide Project Control Services, Accelerated Bridge Program; Boston, MA; Massachusetts Highway Department; Parsons (2009-present)

Yuly is responsible for managing the entire estimating effort, which includes preparation of approximately 200 independent estimates, with a total value of $2 billion. The project involves generating reliable and accurate cost estimates throughout the entire cycle of the Accelerated Bridge Program (ABP) during the design, bid, construction, and change order management phases. All construction cost estimates for ABP projects are being developed in a consistent, systematic, and structured manner.

Chief Estimator; Williamsburg Bridge, Reconstruction; New York, NY; New York City Department of Transportation; Parsons (2008-2009)

Yuly prepared detailed estimates for various change orders. The project involves construction support services, which entail strengthening and reinforcing structural members of main tower columns and main stiffening truss members; seismic retrofit of intermediate tower bases; new maintenance travelers, platforms, hoisting systems, and adjustment of suspender lengths; installation and integration of the Intelligent Transportation System (ITS) at the Traffic Management Center; intelligent traffic operation signals and lane control signals; and the study and design of a contraflow scheme using a movable barrier and a barrier transfer machine, including a new storage and maintenance facility. A bearing replacement at intermediate towers PP 10 and 15 was added to the contract.

Chief Estimator; Tom Bradley International Terminal, Construction Management; California; Los Angeles World Airports; Parsons (2008)

Yuly was responsible for preparing detailed estimates for various change orders, bulletins, and ROMs valued at more than $100 million. The $723.5 million renovation, considered the largest individual project in the city of Los Angeles' history, includes major interior renovations; the installation of an in-line, checked-baggage security system; and the construction of boarding gates for new large aircraft while keeping the 1 million sq. ft. terminal fully-operational. Construction management services for the project include design review; cost, budget, and schedule control; value engineering; quality assurance; operational planning; constructability reviews; safety and security management; contract administration; claims assessments; contract close-out and warranty support; and facility start-up and turnover.

F Technical Approach

F. Technical Approach

The Parsons team was formed to specifically address the challenges posed by PATH in the undertaking of a $4.1 billion multi-year Capital Construction Program focused on renewing existing rail infrastructure, signals, and station facilities, and bringing them to a state of good repair. At the same time, PATH will be introducing a new rolling stock fleet and renewing its flagship station in Lower Manhattan, the World Trade Center Terminal. The Parsons team, anchored by the extensive Port Region-based resources of Parsons and supported by our subconsultants, JCMS and ISR, both with extensive PATH experience, has the expertise, resources, and capacity necessary to successfully support PATH's Logistics Planning Group and its Capital Program.

Parsons' fundamental role is to provide qualified staff to PATH who can manage the coordination of work and railroad facility forces in support of PATH's capital improvement projects. The technical success factor is providing qualified staff for each position in an expedited fashion, according to PATH's immediate and planned needs in support of its program. With this in mind, the Parsons team has identified individuals to fill key staff positions, as well as others, who are highly-qualified Program Managers and Railroad Managers with extensive railroad operations, facility force account management, and large-project experience.

WHY THE PARSONS TEAM?

The Right Team

Parsons is the right team to work with PATH as its seconded staff in support of its Capital Program. The Parsons team is led by railroad professionals such as Nick LaRocco and John Postorino, with records of success developing, creating, and implementing facility force account resource loaded schedules, force account estimates, and track outage plans in support of multiple capital and maintenance projects that achieve a State of Good Repair, similar to PATH's $4.1 billion capital program. In addition, the team includes professionals who recently or/are currently supporting PATH's programs such as our proposed Scheduler Murali Puthiyarambath and our Automatic Train Control Plan Coordinator Nagaratnam "Rabi" Rabindran. This is a team that knows FRA railroad operations, facility force management in a third rail environment, and the PATH System.

Action Plan and Organization

The Parsons team has proven experience that will help PATH achieve its capital and maintenance program goals. It begins with Parsons being up-to-speed on the PATH system and its capital program, being ready-to-go prior to award with key staff, and rapidly mobilizing upon Notice to Proceed. That means we will hit the ground running. Our organization is highly effective with our Project Manager, Nick LaRocco, a 38-year railroad veteran, working with PATH to identify key needs and the personnel to fill the positions required to support the capital program, while our Senior Planning Manager, John Postorino, a 26-year Railroad Manager, works closely with PATH's Wilfredo Guzman to develop the plans, schedules, and estimates for force account support of the capital and maintenance programs.

Capacity

The Parsons team offers tremendous capacity to deliver personnel to support PATH's Capital Program. Our resources exceed 400 professionals in the Port Region. In addition, we have reach-back capacity to corporate resources that exceed 11,300 people. The Parsons team offers PATH a staff with depth in every technical discipline required to support this contract, and can meet all potential surge requirements as we have done for our clients such as the WMATA, the Dallas Area Rapid Transit (DART), the Metropolitan Transit Authority of Harris County for Houston (Houston Metro) and the New York MTA. Our staff is familiar with every type of project that is currently being performed in PATH's program including fleet replacement, ATC signal system implementation, station improvements and platform extensions, World Trade Center Terminal construction, substation upgrades, normal replacement cycles, etc. We have these resources readily available in the Port Region.

Understanding Parsons Role with PATH

The Parsons team understands what PATH is looking for from its Logistics Planning Group. John Postorino, our proposed Senior Planning Manager, performed the same function at the LIRR for their capital program. Our Team has the right blend of railroad Program Management experience and PATH knowledge to ensure that we quickly achieve the right fit with PATH and begin working effectively as an extension to PATH's staff to support its Capital Program. Our team has worked for railroads extensively in managing facility force account in support of capital programs. Nick LaRocco, our Project Manager, John Postorino our Senior Planning Manager, Henry Hattenrath, our Plan Coordinator, and Ed Lofgren, our Field Coordinator/Estimator all have extensive experience supporting capital programs for a minimum of 20 years.

In addition, our proven ability to work effectively with agencies where we are providing engineering support such as

New Jersey Transit, New York MTA,WMATA, Valley Metro Rail, Dubai Roads and Transport Authority (RTA), Houston Metro, Utah Transit Authority, the Exposition Metro Line Construction Authority (LA Expo), and the Miami-Dade County Aviation Department (MIA Mover) will be leveraged for PATH — building on our knowledge of PATH, our commitment to communication and transparency, and our record of successful project delivery for these and other clients.

Parsons is one of the country's most experienced program management (PM) and construction management (CM) engineering firms, regularly providing PM/CM for large, complex transit projects across North America. Those projects include the projects highlighted in this proposal -- Brookfield Properties 9th Ave. Overbuild, East Side Access, WTC Permanent PATH Terminal, PATH Rail and Signal System Phase I, Caltrain General Engineering Contract, Shell Interlocking At-Grade Improvements, the WMATA Architectural and General Engineering Consultant, and the Metropolitan Transportation Authority (MTA) Security Capital Program. Of particular note is our work on the MTA Security Capital Program, in which Nick LaRocco, our proposed Project Manager, worked in close harmony with MTA Capital Construction (MTA CC) to develop their overall program and provide staff to support MTA CC in the management of the construction program. Parsons' staff is fully-qualified to perform work on security projects following security protocols and processes.

Proposed Program Manager Nick LaRocco has worked with the MTA developing a $1 billion Security Capital Program for New York MTA.

The program is security-sensitive and cannot be discussed in detail, but Parsons has been supporting MTA since the program's inception.

Parsons has earned a reputation for producing results by performing PM/CM services on time and within budget, working as a trusted advisor in partnership with our clients. Our approach for executing PATH's program is scalability – focusing on the fundamentals and tailoring our staffing to meet PATH's specific needs at a specific time. Using a core team who will support PATH on a regular basis, we will supplement the team, as needed, with technical expertise to perform specific tasks or expand the range of services provided. Nick LaRocco will communicate on a regular basis with Wilfredo Guzman to understand PATH's needs and provide staff as required. Given the depth and breadth of our team's resources, we have the ability to quickly expand our staffing levels as new requirements or tasks are identified. This cost-sensitive approach allows PATH to effectively and transparently manage our resources as well as the project costs from project inception onward. Parsons will work with PATH to forecast the staffing requirements and skills well in advance of the need, to ensure that we have the right individuals available to provide continuous support.

The Parsons team will leverage its knowledge of the PATH system and use proven mobilization strategies to quickly transition and efficiently provide staff to start up key activities as they are identified by PATH and our Project Manager, with a focus on immediately developing effective interfaces with PATH staff to ensure smooth progress of the capital program. In addition, Parsons has invested heavily in developing technology solutions to improve our PM/CM capabilities. For example, we have implemented and used comprehensive Web-based program management systems on several projects where we are the Program Manager, most recently the MIA Mover at Miami International Airport. Although PATH has not requested these services, we can offer these techniques and tools to PATH as needed to support their efforts.

Parsons has successfully provided seconded staff to support capital program planning and development for other agencies, and we understand the importance of having the right people available to meet the agency's needs. As shown in Table D-1 in Section D, *Benefits to PATH* identifies the benefits that the Parsons team brings to PATH in support of the management of its capital program.

PATH has identified four key constraints that might impact its Capital Program beyond normalized maintenance:

- Track Rights Capacity,
- Facility Force Staffing,
- Construction Support Equipment, and
- Staging Facilities.

We believe that there is one more key constraint; lay-up track capacity to support the New Car program. This has been a major issue on railroads which have undertaken major rolling stock fleet replacement programs with limited yard capacity.

TASK A: COORDINATION OF PATH TRACK ACCESS REQUESTS

The most critical constraint to the success of PATH's Capital Program is track time availability requiring track rights in light of PATH's two-track system, which operates on a 24/7-365 days per year basis. Each of the projects identified in PATH's Capital program will require track access requests and extensive scheduling and planning to be successful. PATH recognizes that there needs to be a Master Track Rights (outage) program designed to accommodate all of the proposed work, while maintaining normal or near-normal revenue operations. In addition, the program must be resource loaded with support personnel from each discipline such as track, signals, power, transportation, etc., to support the third-party work as well as PATH's ongoing maintenance programs.

There are other considerations that should be evaluated by the logistics group such as deferring or consolidating maintenance programs to facilitate the capital program, planning maintenance and capital program track outages concurrently, installing additional interlocked switches to provide additional flexibility, or adding storage tracks to facilitate construction staging, as well as others. There are a number of strategies that members of the Parsons team have used in the past to facilitate capital construction projects.

Each of the program's main projects have unique requirements that need to be addressed.

The *World Trade Center Transportation HUB* and *Permanent PATH Terminal* and Memorial construction will impact the World Trade Center's terminal in Lower Manhattan, the station tracks, and the passengers' access. The heavy construction adjacent to the main terminal at the World Trade Center requires planned terminal track outages to accommodate the construction. In addition, there will also be numerous platform outages that will require the maintenance and protection of pedestrian traffic throughout the life of the project. This will require both flag protection for the actual construction, and extensive facility planning to accommodate the customers. Parsons has personnel who have managed large station construction projects adjacent to major terminal and station facilities including New York Penn Station and LIRR's Jamaica Station.

The *Security Program* has a direct impact on the tracks in the Hudson River tubes. The ongoing program requires outages to accomodate the work to mitigate potential vulnerabilities. We recognize that this is an ongoing program that has priority over other programs; however, track rights schedules can be developed that can coordinate the security program with other project outage requests. Parsons has the simulation tools to help PATH coordinate outages if necessary, but at a minimum, we have the expertise to review projects to optimize track rights requests.

The *Signal Program* will require extensive right-of-way work at every interlocking and signal device location, as well as requiring extensive track rights for testing and commissioning the new ATC system, including test trains. This is an extensive program that will require facility force support to provide access and protection to the contractor, but also to facilitate testing, commissioning, and signal cut-overs. Parsons has extensive experience managing the installation of new signal systems including ATC, and has personnel available to coordinate the work as necessary or to act in the capacity of Engineer-in-Charge, as needed.

Nagaratnam "Rabi" Rabindran who helped develop the PATH ATC program is available to support the installation.

The *New Car Program* will require an extraordinary amount of support. One of the issues left to the last minute on most new fleet replacement programs is a Transition Plan to commission the new fleet and to decommission the old fleet. This is a lessons learned that Parsons' staff is familiar with from previous railroad programs. PATH will need to develop a Transition Plan that will identify when and where cars will be commissioned and decommissioned. Having to store cars that are being decommissioned at the same time new cars are introduced into service will require extensive storage track capacity. PATH's Logistics Planning Group will have to work with their procurement department to arrange for the decommissioned fleet to be disposed of. This may require that certain components be removed by PATH forces prior to disposition. At a minimum, it will require tracks so that vendors can access the old cars with minimum disruption to operations. This has traditionally been an issue for railroads when they replace their fleet. Since PATH has limited storage

yard capacity, this will require extensive planning to mitigate. Parsons' staff are experienced with the development and execution of these types of Transition Plans and are prepared to do so for PATH. In addition, as the new trains are being introduced, they will require test runs, commissioning runs, servicing, etc. This planning is also a formidable but necessary effort. Our proposed Project Manager, Nick LaRocco, developed similar plans for the LIRR when they replaced their diesel fleet with new locomotives and double-decker cars, and their M1 fleet with new M7 cars.

In addition, the new car program may require changes to maintenance and servicing facilities. Parsons will work with PATH's rolling stock Program Manager, LTK to identify these changes as they are being planned by the car manufacturer, and incorporate them into PATH's capital program, as required. For the LIRR, Metro North Railroad, and the New York City Transit, their new fleet required changes in the support and component shops, air conditioner shop, electronic shop, truck shop, motor shop, etc. This is experience the Parsons' staff possesses, which will help facilitate the mitigation of similar issues in a timely manner for PATH. An additional consideration will be the power requirements of the new fleet. There is a potential need for additional upgrades of the power distribution system. Parsons has the analytic tools to predict the need if required. We offer these tools to PATH as additional team capability.

The *Station Modification Program* and platform extension project in which PATH is looking to extend platforms to 10 car lengths will also require track rights planning for the construction of the platform additions. Nick LaRocco and John Postorino helped develop the estimates, schedules, and staging for the LIRR's program to extend their platforms to 12 car lengths. However, more importantly, the program will require extensive planning for the accommodation of customers. Parsons has extensive experience in performing Maintenance and Protection of Pedestrian Traffic for platform reconstruction projects.

PATH's ongoing Duct Bank Rehabilitation, Communications Upgrade, and Traction Power Substation Upgrade programs will help support the capital program by providing the PS&C division with more reliable systems, but may also require track rights to facilitate construction. These projects will also be tracked and resource loaded.

Last, but not least, is PATH's ongoing state of good repair projects, which entails the normal replacement of infrastructure components such as rail, ties, surfacing, and third rail, and also has a great impact on track availability. These projects require a comprehensive planning effort to minimize potential impacts and to maximize the work being performed during each outage. The Parsons team members have developed force account estimates and schedules to perform this type of work on systems similar to PATH.

The Parsons team will also review third party programs to identify the impacts on PATH and the durations of those impacts.

We will include the resources needed to support the effort on the Master Schedule. Third party contracts could include work at the WTC site that is not related to the PATH station, work along the Northeast Corridor (NEC) by Amtrak or New Jersey Transit, where PATH's right of way runs parallel to the NEC, as well as other work.

In order to facilitate Track Rights planning, Parsons recommends a number of tools to support PATH's efforts. These tools include an internal weekly Track Rights meeting, two-week look-ahead schedules for each project, a six-week-rolling schedule, and an annual Track Rights Schedule for the maintenance program. The weekly Track Rights meeting will be led by PATH's Transportation Division to discuss the proposed schedule for Track Rights for the following week. Engineering department representatives should also attend. At this meeting contractors' two-week look-ahead schedules will be discussed and finalized, and each department will review the availability of resources to support the outages such as power, flagmen, signalmen, etc. This information will be provided to the Program Managers and Project Managers for the upcoming work.

Parsons recommends that each third-party construction contract includes the number and duration of track usage requests granted for the contract. As part of their baseline schedule approval process, the third-party contractor must identify all activities that require track usage, not exceeding contract requirements. PATH can then coordinate the requested track usage with all other contract and maintenance track usage requests, resolve conflicts, and finalize the initial track usage for each contract and maintenance activity. Initially, this

will form the basis for a multi-year track usage plan. Monthly coordination meetings can then be conducted to update the plan to account for actual progress and schedule revisions using the six week rolling schedule.

TASK B: COORDINATION AND EVALUATION OF SCHEDULES

In order to deliver the multitude of projects involved in this overall program within the five-year timeframe, the integrated PATH/Parsons team will work with the various PATH operating departments to understand their concerns project-by-project, and then quickly develop the required processes and systems that generate current, summary data to support effective management and control to mitigate their concerns. This includes the development of a Master Schedule for the capital and maintenance programs and other third-party projects that may impact PATH's operations and personnel. The most important users of this data will be PATH management who must have ready access to information such as whether contractors are on schedule, their requirements for work in the railroad right-of-way and facilities, and what critical issues and decisions face the program in both the short and long term.

Construction work along PATH's mainline presents a unique set of challenges due to the density of train operations and the electrified railroad operating environment.

There are two primary aspects that must be closely managed by the Logistics Planning Group -- safety and continuity of operations.

First, PATH must ensure that the safety of the public, it's employees and contractor personnel is maintained at the highest possible level at all times. The development and implementation of a comprehensive job safety program, coupled with frequent oversight, are part of a good safety culture and must be diligently managed by PATH. The continuity of rail operations requires that all work requiring track outages be scheduled in advance and fully coordinated with the construction and maintenance programs adopted by each of PATH's operations divisions. This aspect requires that track outage durations are strictly adhered to by PATH, as well as by contractors, and that they have sufficient contingency plans in place. PATH needs to ensure track outage compliance and safety compliance throughout the program.

The Master Schedule is the tool to monitor and plan performance going forward. John Postorino, the Senior Planning Manager, and his staff of professionals will review the schedules provided by the third-party contractors to ensure that they are realistic from track outage and resource support perspectives. If not, he will identify the issues and will work with the contractors to develop realistic schedules based on track rights and support force capacity. These schedules will then be incorporated into PATH's Master Schedule for its capital and maintenance programs. John will meet with PATH's Transportation, PS&C, and Way & Structure divisions to ensure that the schedules are resource loaded, and to identify resource levels required in the future, as well as the constraints to the schedule due to current force levels.

It is our understanding that the Master Schedule developed by JCMS for the PATH capital program was based on input received from Project Managers during several rounds of interviews and a brief/detailed schedule received from PATH for some projects. After developing the master schedule, JCMS conducted discussions with various departments to assess resource requirements and resource loaded the Master Schedule. JCMS then carried out a detailed analysis of the resource loaded master schedule in collaboration with PATH and optimized resource requirements for the program. We recognize this as an ongoing process as the program advances and as changes occur are prepared to manage this process.

We propose to maintain the Master Schedule using the same staff by refining the existing Master Schedule to match the current status of each project. Murali Puthiyarambath, at John Postorino's direction, will develop forms to collect monthly data required to perform schedule updates, and participate in monthly project meetings. Based on the data collected and using details gathered from the review of the monthly updated project schedules from the contractors and PATH divisions, the Master Schedule will be updated on a monthly basis, where applicable.

TASK C: EVALUATION OF PATH FACILITY FORCE REQUIREMENTS

The other major constraint on capital program performance is the availability of PATH's facility forces. Since the current capital program is relatively new, PATH was not able to develop a forward-looking resource program to hire and train new employees in the disciplines required to support this program. In accordance with the "PATH Capital Program Logistics Planning" document provided in the RFP, PATH has identified that 79 additional staff are required to support the Capital Program. This staff has not been hired to date; therefore, there are limited resources currently available to support the capital program. The Rail Safety Improvement Act of 2008 further exacerbates these limited resources by further limiting the use of the resources in a 24-hour period. PATH will need their signalmen to support the new signal program, third rail resources to support power outages, trackmen to support

the programs as necessary for site-specific requirements, mechanical inspectors and maintenance crews to support the new fleet procurement, as well as specific programs that require temporary relocation of trains, roadway worker protection for all work on or adjacent to the railroad, and maintenance of way equipment operators to support projects that require the limited equipment PATH owns. Unfortunately, due to the tight clearances on PATH, contractors may find it very difficult to rent or lease equipment that can be readily used on the PATH property. However, where contractors are scheduled to use their own equipment, the Parsons team can help facilitate the inspection of the equipment prior to it being used on PATH's property, if the current PATH force is oversubscribed.

The first priority of force management and scheduling is to ensure the Maintenance headcount is accurate and PATH is comfortable in supporting the existing infrastructure within FRA limits and PATH standards, while providing a reliable level of service or high level of On Time Performance. Maintenance Track Right schedules will be confirmed on a weekly basis using the six-week rolling schedule, which includes a four-week look-ahead schedule and a two-week review for long-term needs, and to assist in potential service impact notifications.

We strongly recommend performing accelerated inspections and maintenance in highly critical project locations where track rights are most difficult to obtain to facilitate contractor outages.

Capital funded projects will be identified; the scope will be defined and estimated; and staff resources will be scheduled and programmed into a one- to five-year prioritized Master Schedule. Prioritized projects will be selected by infrastructure needs, track rights availability, and resources, while monitoring multiple parallel projects for work force conflicts. Bi-weekly reviews of track rights/resource availability will also be required to program the work as changes occur.

We recommend that maintenance and project schedules be integrated and representatives from all departments be present at all meetings.

In addition to the requirements for maintaining the continuity of rail traffic discussed above, the Program Managers and contractors must work closely with PATH' station operations staff to ensure that construction activities do not disrupt passenger flow and accessibility within the station. This will facilitate the station and platform work. Just as track outage planning requires detailed forethought, potential closures of station entrances and platforms must be planned well in advance and communicated to station operation personnel and customers. John Postorino will work with PATH to monitor the station programs and the PATH support staff to ensure that the appropriate levels of cooperation and coordination are being applied to the projects.

Included in the list of projects is the implementation of a new fleet. This project requires that fleet logistics are well coordinated with the yard and facilities operations to maintain continued railroad service and inspection and locomotive/car maintenance. This has major implications on storage, maintenance, and inspection, and will require a unique understanding of fleet logistics, maintenance and inspection cycles, as well as storage capacity in the yards. Due to the extensive planning required, this coordination will require a dedicated staff. Parsons has a qualified staff to perform this function.

Construction activities within PATH's major maintenance facilities will require close coordination with PATH's terminal operating staff due to the complexity of train servicing and maintenance activities. Typically, PATH's maintenance facilities operate on a 24/7 basis with severely constrained infrastructure. The Parsons team possesses a unique blend of operating and engineering skills that will help us monitor or facilitate, as necessary, the development of an operating plan that can support the contractor's and PATH's needs, while maintaining the continuity of PATH's terminal operations. We will not perform the Program Manager's role, but will work with all parties as necessary in our role as seconded staff to ensure the work is completed without impacting operations.

The Resource loaded schedule must include Flagmen (Roadway worker protection) and pilots who support the capital program, which are provided by the Transportation Division, but are limited by hours of service and work rules. In addition, PATH must have trainers available to train the contractor's workforce in Roadway Worker Protection/Safety. We can provide this service if required by PATH.

TASK D: LOGISTICAL SUPPORT

To succeed, PATH's Logistics Planning Group must completely understand the status of each project, and baseline that understanding with every level of the organization -- Transportation Division, Way & Structures, PS&C, procurement, and program management -- while recognizing third-party agreements and the funds available. The key to the success of this baselining effort is to continue discussions with all of PATH's stakeholders, in which all of the available information on the individual projects is reviewed, discussed, and agreed upon on a regularly-scheduled basis. Communication is the critical ingredient for a successful capital program.

Parsons has in-depth experience as Program Managers on some of the largest transportation projects and programs in the world. We understand the philosophy and practice of serving as an extension of agency staff, because this is at the core of every major program we manage. We are strong proponents of integrating our team within the client's organization and developing shared goals and objectives. We are successful when our clients are successful.

Our team's organization will be a reflection of the PATH organization we will be supporting. The Parsons team will co-locate with PATH staff in their existing offices at Journal Square, which will enhance this integration and create effective working relationships with PATH's Logistics Planning Group.

We have experts to support the PATH program who are capable of performing studies and investigative analysis as required by the program.

Parsons has extensive experience in preparing specifications, standards, contracts and drawings for major rail programs as well as security programs.

We are currently performing this type of work on the East Side Access project, the WTC Permanent PATH Station, and the MTA Security program in the New York Metropolitan region. In addition, the Parsons team is ready to help PATH in developing programs that identify blocks that will be impacted, power outage limits, and notifications and operational impacts for each project, as required.

We also have numerous field personnel to support the timely delivery of PATH's program including providing expert professional services in Substation replacement, ATC implementation, Communications, New Rolling Stock, Signal System upgrades, etc. Parsons has extensive staff in the Port Region who have this expertise, and we have provided resumes for several of our staff who are available to support PATH.

Claims Avoidance: One of the tasks for the Logistics Planning Group will be to document the Track Rights promised and provided to the contractors. Addressing and resolving contentious issues that have the potential to cause negative impacts to the project is one of the most effective ways to prevent claims. It is imperative that PATH place a high priority on fulfilling all contractual obligations specified in the contract documents if plausible, or address them early on in the project. This includes, but is not limited to, reviewing proper staffing and quality control procedures on the contractors, and providing the proper support that is required by PATH to effectively progress the work. It is equally important for all parties to anticipate problems before they occur and work together to provide solutions to mitigate negative impacts that can lead to future claims. This is a job that has major benefits to PATH.

TASK E: PROGRAM DELIVERABLES

The Parsons team will have the overall responsibility for the Program Master Schedule development at the direction of PATH's Director of Logistics Planning Group. Using data developed in coordination with PATH, our team members will prepare and maintain a Master Schedule covering all phases of the Program.

The Program Master Schedule will be developed to the level of detail necessary, using Primavera v.6 to clearly define all of the critical program interfaces and to enable analysis of each project's critical path. The Master Schedule summarizes the entire Program. It incorporates all other schedules and contains the general program elements. The Master Schedule will be updated monthly. As the work progresses, more detailed schedules will also be developed for approaching phases that will replace the more general schedules in the current Master Schedule. When completed, the Program Master Schedule will reflect the events and activities of many entities.

Parsons personnel will assemble all of the schedule-significant activities of all participating entities into one comprehensive Program Master Schedule and, control and maintain the schedule from project inception to completion.

All project elements must be defined sufficiently to enable the creation of an estimate and project budget baseline. The schedule will be reflective of the original scopes of work and any additional PATH requirements not specifically related to the scope of the work to be performed. The Master Schedule is the primary tool for assessing overall project status. Monthly updates of the detailed Master Schedule will be available to Project Managers and program management.

Parsons will prepare executive summaries, ad hoc reports, and presentation materials for executive staff and the public for PATH to use as required during the life of the program. Parsons' staff is accustomed to providing these types of reports in support of capital programs.

G

Management Approach

G. Management Approach

The anticipated services to be provided under the Port Authority's On-Call contract includes preparing and maintaining a Master Schedule; capital program oversight; scheduling track rights; and developing facility force account requirements and cost estimates associated with new construction or rehabilitation projects in PATH's Capital and maintenance programs. Parsons has included in its proposal representative project descriptions and detailed resumes for the proposed staff to support the program, to demonstrate the team's qualifications and commitment to the Port Authority of New York and New Jersey and to PATH.

Parsons is proud to have worked with PATH on several vital projects:

- *Restoration of the PATH Station at the World Trade Center Site.*
- *Design for the New PATH WTC Terminal in Lower Manhattan.*
- *Planning and Design for the New Vehicle and Signal Study.*

Parsons and our proposed team's member firms, bring the experience of top managers who have successfully planned and managed railroad facility force utilization in support of Capital Program implementation in a high-volume, third rail powered FRA railroad environment. Our successful approach uses organizational principles repeatedly used as keystones in achieving an integrated team that fulfills planned standards of quality, meets cost estimates, and schedules and attains public acceptance. These methods and procedures, gained through years of successful experience on similar projects, will focus on:

- Establishing clear lines of responsibility, authority, and communication, and fostering a spirit of teamwork among all of the parties involved.
- Careful and complete setup of project control systems, as required, and concise documentation of all activities, processes, and changes to the project.
- Using standardized and disciplined work practices for all project participants and verification of compliance with these practices.
- Establishing and maintaining realistic baseline cost estimates and schedules against which performance can be measured, as well as constant attention to the details of time and money, both available and spent.
- Timely and accurate reporting so managers and participants, at all levels, know their roles and responsibilities and have the necessary information needed to make their decisions and perform their jobs.
- Assignment of senior-level personnel with proven management experience, who are committed to the success of this project.

Because Parsons' managers are professionals with backgrounds in railroad facility force account management and are experienced in the program elements crucial to the type of projects that can be expected to be supported in this on-call contract, they can communicate with equal clarity to other PATH engineers and managers, designers, public officials, contractors, and suppliers. They are able to interpret and clarify areas of concern as they occur. Their ability to understand the "big picture" complements their success in paying attention to the minute details that inevitably guide the results of supporting large, complex rail programs. Parsons' team members have extensive experience in providing and managing facility forces in support of Signal projects, station improvement projects, platform extension projects, new fleet programs, substation replacement projects, communications projects, and large station/terminal projects.

Large capital programs such as the one currently being managed by PATH require many resources from the normal operating divisions, and can test the flexibility of an organization. In addition, with the new hours of service issues identified in the Rail Safety Improvement Act of 2008, it is more important that force account support be better planned and hours worked recorded to ensure compliance. This is a team that has done it before.

Managing the work under this contract requires an organization that can evolve to meet its changing needs from the first assignment through the last. Our proposed organization is designed to complement PATH's new Logistics Planning Group, and will be capable of adapting in accordance to the needs of the new Capital Program and state-of-good repair projects. It carries the flexibility to quickly integrate

needed resources, when required, to provide effective, timely responses and solutions to multiple tasks typical for on-call contracts.

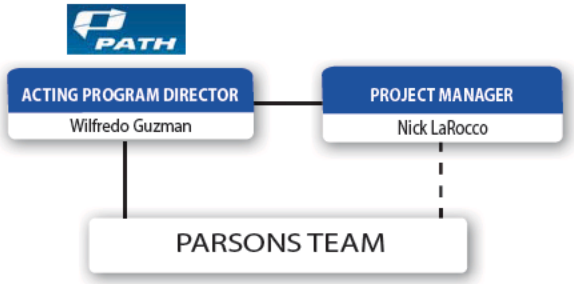
Management Structure

The Project Manager, Nick LaRocco, will report directly to PATH's Acting Program Director-PATH Logistics Planning Group, and will have complete authority to act on behalf of Parsons in all matters relating to the services to be provided. Nick, a Vice President and Senior Program Manager with Parsons, will work and communicate directly to PATH's Wilfredo Guzman for the purposes of understanding PATH's personnel needs and identifying the right candidates to support those needs. They will discuss the immediate needs as well as develop anticipated needs to meet the escalating work levels.

Nick brings more than 38 years as a railroad facility force account manager and Project Manager. Nick's proactive style has proved successful in managing both design and construction projects, as well as the Track, Structures, and Maintenance of Equipment departments for the LIRR. As Project Manager, he will serve as the overall manager for the planning and execution of the contract. As PATH's single point of contact, he will:

- Work with the Program Director- PATH Logistics Planning Group to identify the resource needs and skill sets of required personnel to support PATH.
- Assure that the proper personnel are identified for each assignment.
- Assure that Parsons and its team member firms all operate in conformance with PATH directives, policies, procedures, instructions, guidelines, and levels of quality.
- Assure that PATH is kept fully-informed of project status and significant issues.
- Anticipate and resolve potential problems to facilitate timely decision-making.
- Assure that all work is conducted professionally and that the project is completed to PATH's satisfaction.

Management Structure



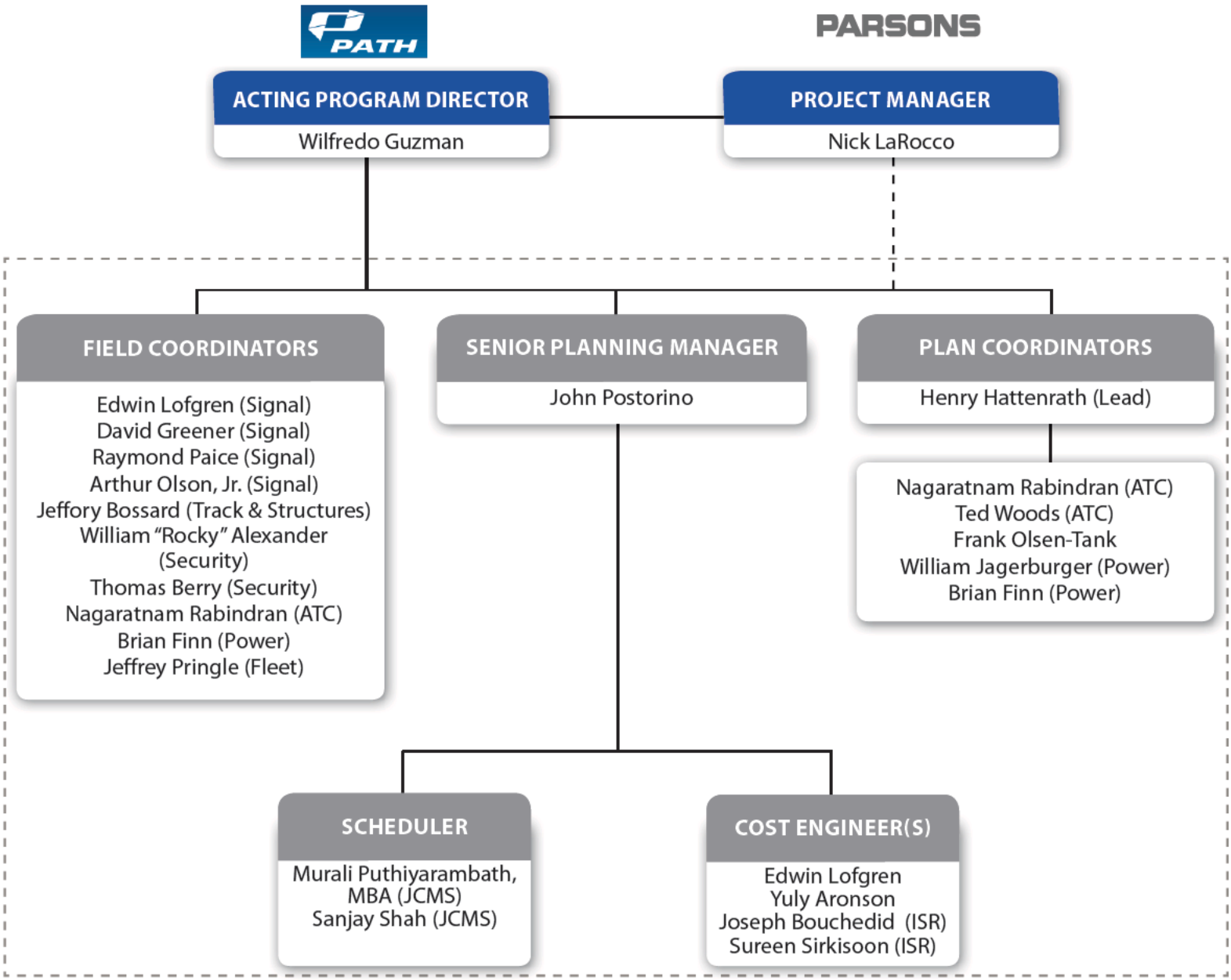
Parsons project management approach starts with ensuring our team is responsive to our Client's needs and committed to keeping our client fully appraised of all necessary information.

Parsons recognizes that this is an on-call contract for seconded staff, unless a specific task with deliverables is assigned to our team. Therefore, the day-to-day assignments of the Parsons' staff working with PATH will be managed by PATH's managers to whom they are assigned. However, our Senior Planning Manager, John Postorino, a 26-year railroad veteran with extensive experience managing railroad facility forces in support of capital programs, will be Parsons lead individual in the Journal Square Offices. He will work directly for the Program Director-PATH Logistics Planning and will ensure that the Parsons staff works seamlessly with PATH's managers. We completely understand that our Team will be integrated with other PATH managers and we will act accordingly.

John will manage the overall Master Schedule development and maintenance, and will facilitate the program meetings to ensure that the schedule work is properly scheduled and documented. He will also manage the cost engineers who will develop the facility force estimates to support the overall program. John performed the same function at the LIRR in support of its capital and maintenance programs. He will work closely with Wilfredo Guzman to ensure that he capitalizes on his experience to anticipate and mitigate potential issues. John will provide a high level of support to the Program Director and will be a fully-participating "PATH team" member.

The full organization is shown on the following page.

ORGANIZATION CHART



THE PARSONS TEAM

Parsons Transportation Group of New York, Inc.
JCMS, Inc. (JCMS) - MBE
Integrated Strategic Resources, LLC (ISR) - WBE

All proposed members are Parsons staff unless otherwise indicated

DBE Involvement and Participation

Parsons has a successful record of achieving affirmative action goals, both in our hiring practices and in the use of qualified DBE subconsultants, as shown in Table G-1, Parsons DBE/SBE/MBE/WBE Goals/Actuals.

Table G-1, Parsons W/M/DBE/SBE Goals/Actuals

Project Name / Location	Goal	Actual
Washington Metropolitan Transit Authority Metro System	25%	35%+
Central Phoenix/East Valley Light Rail	10%	11%+
MTA Systemwide Security Program	5%	5%
Denver West Corridor PE/EIS	17%	18%
T-Rex Southeast Corridor	9%	11%
Minneapolis Hiawatha LRT Project	12%	13%
Baltimore Light Rail System	15%	20%
Pasadena Gold Line Design-Build	20%	27%
Dallas Area Rapid Transit Phase I	30%	37%
Dallas Area Rapid Transit Phase II	35%	56%
Dallas Fort Worth Airport	20%	70%
UTA Commuter Rail Final Design	8%	13%
Miami International Airport Expansion	7%	10%
Alameda Mid-Corridor Trench	22%	22%+
Second Avenue Subway	20%	20%
Fulton Street Transit Center	20%	20%
Trans-Hudson Express Tunnel	25%	25%
MBTA Contract No. Z98PS01 - AFC Consultant Services	16%	16%
MBTA Contract No. Z98PS03 Phase II AFC for Commuter Rail, Ferry Boat and Parking Facilities	16%	32%

JCMS, a certified MBE subconsultant, will provide scheduling services. ISR, a certified WBE, will provide cost estimating services. Parsons is committed to meeting or exceeding the stated goals of 12% MBE and 5% WBE participation, respectively.

Quality Assurance and Quality Control

Quality is central to our program management approach. Parsons has established and maintains a quality management system that has been certified ISO 9001:2008-compliant. This corporate commitment to quality extends to each and every Parsons project. The Parsons team working with PATH will provide resources as required to support PATH in updating the existing quality assurance and quality control plans to include all projects in the Capital Construction Program and ensure compliance with PANYNJ, Federal Railroad Administration and Federal Transit Administration (FTA) quality program requirements, and obtain an ISO 9001:2008 certification for PANYNJ. In our normal working environment, we will conduct quality reviews, surveillances, and audits to ensure that any work managed by the Parsons team meets or exceeds applicable standards and requirements for reliability and maintainability.

ABS Quality Evaluations
CERTIFICATE OF CONFORMANCE
Parsons Transportation
ISO 9001:2008

Safety

Safety is a core corporate value for Parsons, and we integrate our safety culture into every project and program that we manage. We will bring this safety culture and practice to our work with PANYNJ. Over the past five years, Parsons has managed several projects that have exceeded a million man-hours without serious safety violations or injuries.

Parsons has a safety culture and record that is unmatched in our industry. In January 2009, Parsons became the eighth U.S. company — and first engineering/construction company — to achieve a top-ranking Star Status in the U.S. Department of Labor Occupational Safety & Health Administration's (OSHA) Corporate Voluntary Protection Program (VPP). As a result, Parsons is recognized by OSHA for having a world-class safety program and culture, from its management structure down through all employees working in the field. All Parsons' offices and worksites, including those for PANYNJ, will be eligible to qualify for VPP Star Status, which can potentially benefit PANYNJ by adding to the agency's bottom line. Injuries, illnesses, workers' compensation premiums, and other costs may be reduced through VPP participation.

Working as Program Managers for the U.S. Postal Service, on nearly 19,000 work orders in more than 14,000 facilities, Parsons staff and sub contractors have worked more than one million work hours with only one recordable safety incident.

Our safety record as Program Manager for transit projects is very strong. We are particularly proud of our safety record working on active railroads, where our client communication and coordination, accompanied by rigorous adherence to client safety protocols, makes Parsons a desired partner by rail transit agencies seeking a contractor they can count on for this necessary work. From the East Side Access project in New York City to the TriRail, CSX, and North Corridor projects in South Florida, Parsons' professionals get the job done — and everyone goes home at night safe and ready to work the next day.

Figures G-1 and G-2 demonstrate the outstanding results of our corporate safety focus. Our Lost Workday Case Rate and Total Recordable Injury rate have been significantly reduced over the past six years and are currently comparable to the lowest rates in our industry. In 2007, the NSC presented safety awards to more than 150 individual Parsons' projects and offices. We have also been selected by the NSC for a company-wide Occupational Safety Excellence Award for our efforts in promoting work safety.

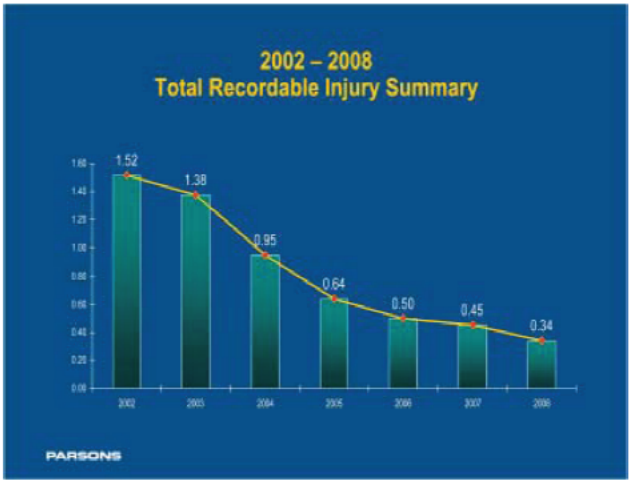
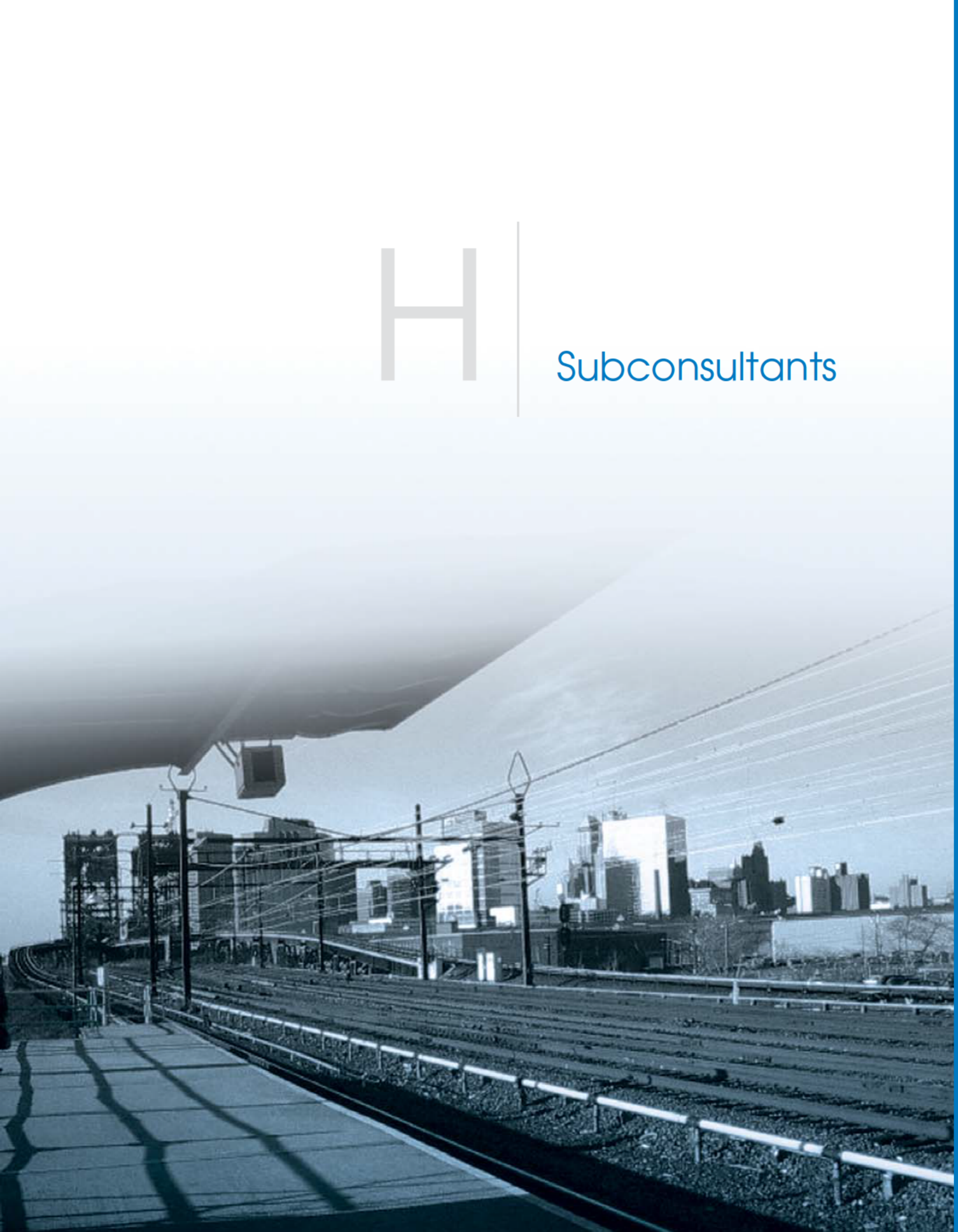


Figure G-1, Total Recordable Injury Summary

Figure G-2, Lost Workday Case Rate Summary

H Subconsultants



H. Subconsultants

Parsons has assembled a qualified team of local subconsultants to perform schedulling and estimating support for this project, all certified MBE or WBE firms. We have a strong record of meeting and exceeding the MBE/WBE goals set forth by our clients. Parsons is committed to fully integrating MBE/WBE firms into our team and we value their contributions to the project.

Our proposed team members are as follows:

FIRM NAME	COST MULTIPLIER	W/MBE STATUS	TECHNICAL QUALIFICATIONS
JCMS, Inc.	2.3078	MBE	Program Management; planning, scheduling and document control services. They have significant expertise in the area of project controls, delay claim analysis, cost estimating, scheduling, resident engineering and construction inspection.
Integrated Strategic Resources, LLC	2.2479	WBE	Cost estimating expertise in security, signals, communications, (WiFi, fiber,) police radio, tunneling, tunneling equipment and methods, blasting, excavation and removal of materials.

Murali Puthiyarambath

SCHEDULER

Firm
JCMS

Education
MBA, Marshall School of Business, USC, Los Angeles, 2002

Bachelor of Science in Civil Engineering, MREC, India, 1987

Additional Coursework/ Training
Construction Quality Management – US Army Corps of Engineers, Philadelphia

Financial Mgmt. – Indian Institute of Management (IIM), Calcutta, India

Project Mgmt. – Administrative Staff College of India (ASCI),

Quality Mgmt. – National Productivity Council, New Delhi, India

Project Mgmt. and QC – National Thermal Power Corporation, New Delhi, India

Certifications
Primavera Certified P6 Trainer, August 2008

Project Risk Management in Pert Master, December 2009

Profile Background

Murali is an engineering and management professional with over 19 years of experience on diverse construction projects including mass transit, commercial, industrial institutional buildings, and defense department projects. His responsibilities include project management, construction management, contract management, project planning, CPM scheduling, cost estimating, bidding, performance reporting, vendor negotiations, and subcontracting.

Murali is a Primavera Certified Trainer. He has developed detailed cost and resource loaded CPM schedules, monthly updates including critical path analysis, graphic charts, computer reports and narrative reports. Murali has performed Capital Program scheduling for PATH and the LIRR. He has also been responsible for reviewing and approving contractor-prepared CPM schedules, incorporating changes and change orders, making logic changes and preparing Recovery Schedules. He is an expert in the latest version of Primavera's scheduling software and also proficient in using project management tools such as "Expedition" and "Prolog" Document Control software.

Employment History

2005-present:	JCMS, Inc., Mercerville, NJ
2002-2005:	Integrated Construction Enterprise, New Jersey
2001-2002:	Hadi Haider & Bros. Co., Kingdom of Saudi Arabia
1997-2001:	RPG Transmission Limited, Bangladesh
1992-1996:	RPG Transmission Limited, Bangkok, Thailand
1991-1992:	ABB SAE (India) Limited, India
1990-1991:	Consulting Engineering Services, New Delhi, India

Relevant Experience

Sr. Scheduling Engineer; Capital Program Management Services (PATH System); NY and NJ; PANYNJ (2009-present)

Murali is responsible for the preparation of a questionnaire for interviews, as well as understanding the scope, duration, and resource requirements for the project. Based on the data collected during the interview process, he has developed resource loaded master capital program schedule incorporating logistical constraints and optimized resource requirements. The project consists of developing an integrated resource loaded schedule and optimizing resource requirements for the proposed $2.5B, 10-year capital program projects for PANYNJ's PATH Rail System.

Senior Scheduling Manager; Power and Track Project Control/Scheduling Services for LIRR Force Account Projects, New York, NY: MTA/LIRR (2008-2009)

Murali provided Project Control/CPM Scheduling services to the Engineering Department at LIRR where he was responsible for power and track projects. His responsibilities included creating detailed resource loaded CPM schedules, updating of the schedules on a monthly basis and reporting the status of the projects with respect to time, resource and cost. In addition to the annual track program, he was a key team member in finalizing the 2009 Calendar Year track outage program, which involved several rounds of discussion across LIRR departments –

Engineering, CPM, Service Planning, Tracks, and Vehicles, he also successfully implemented the first project migration from Primavera P3 to P6 for LIRR (including both FA Management and CPM). He provided project control/scheduling services for the following:

LIRR Force Account Management, Major Power and Track Projects.

PNPG and PNPH: Demolition and reconstruction of 8 new traction power substations ($96 million);

PNT4: Annual track maintenance and upgrade program ($56 million);

PNPC: Removal and replacement of 15–ve reactors, replacement of +ve and -ve cables, and installation of a new traction power substation ($30 million); and

PNPU: Installation of a new signal motor generator ($18 million)

Senior Scheduling Engineer; The Trans-Hudson Express Tunnel; NJ and NY; NJ Transit (2007-2008)

Murali is responsible for developing the Master Schedule for the construction phase of the project. This includes identifying the major elements of the project, developing a work breakdown structure (WBS) based on the understanding of the various bid packages, and assessing priorities, dependencies, and construction durations. The $8.7 Billion Trans-Hudson Express Tunnel is a railroad tunnel that will be built under the Hudson River, connecting New Jersey and New York. This project will include: 1. Two new tracks under the Hudson River and the New Jersey Palisades; 2. A new six-track passenger station under 34th Street in New York connecting with the existing Pennsylvania Station; 3. Track and systems improvements in New Jersey; and 4. A rail storage yard in Kearny, NJ.

Senior Scheduling Engineer; Hoboken Ferry Terminal, Hoboken, NJ; NJT (2007)

Murali was responsible for reviewing the CPM Baseline Schedule and updates submitted by the contractor, verifying progress, analyzing the critical path, preparing reports summarizing the findings and providing recommendations. He was also responsible for reviewing time-impact analysis (TIA) submitted by the contractor to justify time extension requests and make appropriate recommendations. The $125M project objective is the restoration and adaptive reuse of the historic ferry concourse and adjacent rail terminal building.

Senior Scheduling Engineer; Morrisville Train Storage Yard, Morrisville, NJ; NJT (2007)

Murali was responsible for reviewing and analyzing the contractor's CPM baseline schedule, monthly updates, and comments on schedule integrity and progress. He was also responsible for reviewing and analyzing the contractor's Time Impact analysis, requesting time extensions and making recommendations to the owner.

Senior Scheduling Engineer; Market Street South Concourse Site Preparation/ General Contract, Newark, NJ; NJT (2006)

Murali reviewed contractor's schedule, prepared Master Schedule and Master Schedule updates for streetscaping work. Site preparation, included removal of fences, gates, and turnstiles; light fixture relocations; and temporary wood partitions, plumbing; including construction of a new wash water line system; and foundations, including concrete foundation walls, masonry walls, concrete floors, metal doors, and glass walls at Newark Penn Station in Newark, NJ.

Senior Scheduling Engineer; Essex –Kearny 138 kV Circuit; NJ; PSE&G (2009)

Murali was responsible for developing a detailed project schedule incorporating PSE&G's administrative functions. Project includes installation of new 138Kv OH line between Essex and Kearny, and associated 138 kV breakers & half bus at Kearny using breakers rated at 80 kA fault current. The breakers at Foundry Street and Essex County Resource Recovery substations are being replaced to withstand a 63 kA fault current.

Sanjay K. Shah
SCHEDULER

Firm
JCMS

Education
Masters in Construction and Project Management, Centre for Environmental Planning and Technology (CEPT), Ahmadabad, India, 1997

Bachelor of Science in Civil Engineering, L. D. College of Engineering, Gujarat University, Ahmadabad, India, 1994

Additional Coursework/ Training
Primavera P5, P6 and P3

MS Project, Auto CAD –2000

MS Office, SAP2000.

Profile Background

Sanjay has more than 12 years of experience in the field of project management and project controls. He has provided planning and scheduling services including resource/cost control analysis on a variety of engineering, procurement, and construction projects from bidding to design, through construction and closeout. In addition to his in-depth project control skills, he has experience in Estimating and Costing, Budgeting and Revenue; Capital and Manpower, Financial Projections, Job Cost Monitoring, Contract Administration, and Claims Management on multidisciplinary EPC/BOT projects.

Sanjay has performed scheduling for numerous transit projects including PATH's Signal System Modification Program. He has been responsible for the development of WBS, activity codes, resource codes, and cost account codes. His CPM Scheduling experience includes developing and maintaining Integrated Master Schedules, developing detailed cost and resource loaded construction schedules and performing monthly updates, analyzing the impact of changes on the project schedule, assessing delays and preparing recovery schedules, reviewing contractor-prepared construction schedules, and preparing associated charts and reports for the management. He is very proficient in Primavera Project Management software including the latest versions P5/P6.

Employment History

2007-present:	JCMS, Inc., Mercerville, NJ
8/2006-2007:	Adani Group's Mundra SEZ Ltd.
2003-2006:	Government of Gujarat
5/1997-7/2003:	Larsen & Toubro Limited – ECC Division
1997:	Aditi Engineers, Ahmadabad, India
1995:	Aakar Consultancy, Ahmadabad, India

Relevant Experience

Scheduling Engineer; Signal System Modification Program; NJ and NY; PATH (2009-present)

As a part of its capital modernization effort, PATH is undertaking the modernization of its signal system, from trains to track signals to stations. PATH aims to overhaul its current mechanized signals into a modern, state-of-the-art computer-based system. The new computerized signals will route traffic more efficiently and help the rail system meet its goal of increasing capacity. Sanjay developed the role/resource loaded integrated initial baseline schedule for the stage wise signal system modification program that includes design, stage wise installation, testing, and training. His responsibilities included:

- Creating the baseline schedule and assigning trade wise roles and resources to the baseline activities
- Producing trade wise monthly role distribution tables, generating stacked histograms for all role requirements, and producing individual trade wise profile curves to plan in-house resource requirements for PATH.

Scheduling Engineer; Hudson Bergen Light Rail Transit System; Bayonne, NJ; NJ Transit (2007)

This $65 Million project is the extension of Hudson Bergen Light Rail to 8th St. in Bayonne, NJ. It is a Design, Build, Operate, and Maintain (DBOM) contract which includes the construction of a ramp with retaining wall, elevated viaduct, and a station at Bayonne with an elevated platform. Sanjay provided delay analysis services on the project.

- Review and analysis of the Contractor's request for extension of time
- Review of Baseline CPM Schedule and various periodic updates
- Performing critical path analysis of CPM updates/fragnet analysis to identify periods of major delay
- Study change orders to identify the impact on the critical path, assign reason and responsibilities, and carryout concurrency analysis of delays
- Recommend extension of time

Scheduling Engineer; Market Street Elevated Reconstruction; Philadelphia, PA; Southern Pennsylvania Transportation Authority (SEPTA) (2008)

The $740 million project includes staged replacement of 11,000 ft. of the current structure with new single-beam supports, replacing six existing stations, constructing two new Automatic Train Control buildings and other related improvements. As the Senior Scheduler, Sanjay's duties included:

- Collecting progress information for three station projects, updating them on a weekly basis, and preparing schedule charts and reports
- Monitoring and updating Outage schedules for the Guideway and Stations contracts
- Reviewing the baseline schedule for new contracts
- Incorporating and documenting issues into the existing schedules to create an accurate history of events with potential time impact
- Evaluating time-impact analysis submitted by contractors to determine the validity of time extension and make recommendations to the owner
- Performing schedule risk analysis, which involved identifying risks and risk types, calculating the risk exposure, relating the risks to schedule activities, identifying key constraints and contributors to project risk, assessing their criticality, and assigning responsibility including mitigation
- Maintaining the project schedule showing risk impacts with periodical updates

Scheduling Engineer; Fairmount Sub-Station; Philadelphia, PA; SEPTA (2007-2008)

As Scheduling Engineer on this multi-prime contract, Sanjay was responsible for the following:

- Developing the cost loaded baseline schedule in conformance with the scheduling specifications for the project and preparing a narrative report.
- Updating the schedule monthly
- Performing logic changes as necessary to keep the schedule current based on changes on the project

Scheduling Engineer; Shell-At-Grade – Traction, Signal & Communication Improvements; New Rochelle, NY; Metro-North Railroad (MNR) (2008)

The $94 Million project consisted of upgrading Amtrak/Metro North's Shell-at-grade interlocking with modification to platforms, signaling, drainage, etc. Sanjay was responsible for the following:

- Reviewing of contractors' request for extension of time, and analyzing the delays. This involved carrying out fragnet analysis and window analysis to assign the responsibility of major delays.
- Developing time extension recommendations based on the analysis and preparing a written report regarding the contractor's request for extension of time.

Joseph Bou-chedid

COST ESTIMATING

Firm
ISR

Education
Bachelor of Science, Engineering Science, State University of New York at Stony Brook, 1982

Registrations
Certified Value Engineer, 1996

Profile Background

Joe has an extensive background in managing and preparing cost estimates, beginning at the conceptual/budget stage, through design and construction, to project completion. For seven years, Joe was Manager of the NYCT Cost estimating division for the Stations Rehabilitation program area. These estimates were prepared using either MS Excel or HCSS estimating programs. During his carrier, Joe has played a vital role in spearheading effective cost estimating of multi-billion dollar transportation and infrastructure projects throughout the East Coast. These programs included not only new construction, but also expansion and extensive and complex rehabilitation of existing projects ranging from detailed estimates for the Tappen Zee Bridge replacement with tunneling, rail, and roadway expansion options, the PANYNJ JFK (DBOM) Airport Access Program, the MTA's East Side Access Project, and the World Trade Center PATH Permanent Transit Center.

Employment History

2004–present:	Integrated Strategic Resources
2003-2004:	PACO Group
1996-2003:	Parsons Brinckerhoff, Inc.
1993–1996:	Federman Design and Construction
1985–1993:	New York City Transit

Relevant Experience

Chief Estimator; Wolrd Trade Center Permanent PATH Transportation Hub; New York, NY; PANYNJ (2005-2011)

Joe is preparing, maintaining, modifying and revising cost estimates for any and/or all deliverable aspects of the project, including but not limited to studies, conceptual design options, preliminary design, final design and constructor construction bid packages. The $2 billion World Trade Center Transportation Hub will include a permanent PATH terminal, pedestrian connections that will significantly improve access to PATH, ferries, and 14 Lower Manhattan subway lines, and it will feature seamless pedestrian connections to the World Financial Center, and the Metropolitan Transportation Authority's proposed Fulton Street Transit Center.

THE Tunnel, NJ Transit (2007)

Joe provided independent cost estimating for the CM Consortium for the new proposed Hudson River Tunnel for NJ Transit. Joe was responsible for estimating the civil/structural surface work, the loop track, and the catenary foundations and structures. The CM consortium reconciled their estimate with that of the designers. The estimate was within a 4% margin across the board in all disciplines and preliminary work scopes.

Airport Access Program, New York City (1996-2000)

Joe served as Project Estimator during this design-build-operate-maintain (DBOM) project to improve mass transit access to John F. Kennedy (JFK) International Airport. Originally envisioned, the 8.4-mile (13.5-kilometer), 10-station light rail line provides intermodal connections between the airport and existing LIRR and NYCT stations. Joe as part of the general engineering consultant team, Joe determined costs for design and construction of the civil/structural elements as well as managed the electrical, HVAC, plumbing, and fire protection systems. The project provided a wide range of planning, design, environmental analysis, construction management, and

procurement activities, while also helping to operate a program office jointly with PANYNJ staff members.

MTA LIRR East Side Access Project (1997-1999)

Joe served as Project Estimator during the design phase to improve LIRR access to and from Queens to the East Side of Manhattan (Grand Central Station). Joe provided and managed cost estimates for civil, structural, ventilation, plumbing, and electrical trades. Construction of the tunnels in Manhattan and Queens requires two different techniques. In Manhattan, which sits on solid rock, the tunnels and most of the new LIRR terminal at Grand Central Terminal will be drilled with tunnel boring machines. The remaining cavern areas will be conventionally mined. In Queens, where the subsurface conditions are mostly soft ground, the western portion of the tunnels will be built using cut-and-cover construction. Soft-ground boring machines will be used to tunnel under Sunnyside Yard to avoid disrupting operations.

Tappan Zee Bridge Rehabilitation and Replacement, New York State Thruway (2003)

As part of the Arup team Joe prepared conceptual cost estimates for multiple alternatives in support of an environmental impact study covering 30 miles of the New York State Thruway, including the Tappan Zee Bridge across the Hudson River and a possible link to Stewart Airport. The goal of the project was to determine the future for the existing corridor, which is currently at capacity and condition constrained. The options under consideration and that were estimated include preservation and rehabilitation of the existing bridge, a new bridge, a new immersed tunnel, a new bored tunnel, and various combinations to carry a highway, transit, or both. It is one of the longest bridges in the United States at 3.03 miles long. Seven lanes are contained within the 90-ft width and the center span reaches a height of 157 ft. above the water.

Sea Beach Line Station Rehabilitation, NYCT (2008)

Joe was added to the existing contract to provide cost estimating for all civil/structural, architectural and mechanical disciplines for the preliminary through construction bid services for the rehabilitation of the nine (9) Sea Beach Line NYCT Stations.

LIRR General Engineering Consulting Services, New York (1996)

Joe was the Project Manager for constructibility and value engineering services during an assignment to upgrade various facilities for the largest commuter railroad in the United States. Joe managed and prepared multidisciplinary project estimates for the rehabilitation of various stations, including 30 new high-level platform stations. He assisted the LIRR cost-estimating group in developing their standard worksheet, unit costs, and local labor wage rates.

New York City Transit, Manager Cost Estimating (1985-1993)

For seven years, Joe worked for NYCT as the Manager of Cost Estimating in the Stations Rehabilitation Division. He prepared cost estimates for Capital Programs and Force Account services for various station rehabilitation projects such as the Times Square Station Complex and the 63rd Street Tunnel Connection between Queens and Manhattan, bus depots, rail control centers, train storage yards, and numerous power upgrade, track, and signal assignments.

Surren Sirkisoon

COST ESTIMATING

Firm
ISR

Education
Bachelor of Science Degree in Electrical Engineering, City College of NY, 1989

Additional Coursework/ Training
Public Safety Radio Systems Course, MACOM

Cab Signals Systems, Metro-North Railroad

Elements of Railway Signaling, George Washington University

Communications Based Train Control, George Washington University

Profile Background

Surren has spent the majority of his 18-year career working within the NYCT signal, communications, power and since 9/11, security program areas. Over an almost two-decade span of time, Surren has worked side-by-side with NYCT's engineers, construction managers, and operators (Department of Subways) to design, construct, and integrate some of the most technologically-challenging systems throughout the 24-hour non-stop transit system. Surren's understanding of the working environment between a Capital Program, consultants, installers, equipment providers and operations and maintenance provides a unique level of experience for any systems integration project in a complex transit system.

Employment History

2004–present: Integrated Strategic Resources
2000-2008: Egis Inc./AECOM
1991-2000: Stone & Webster

Relevant Experience

Portal Bridge, NJ Transit (2009-2010)
Surren is leading the systems estimating effort for the Preliminary Engineering of the Portal Bridge project. This significant effort involves replacing the existing bridge with two parallel structures, a new three-track, fixed northern bridge, and a new two-track moveable southern bridge.

NJT Signal Support – Positive Stop Implementation and ReSignalling of River Line (2009)
Surren is preparing RFP documents to implement a new automatic train control system (ATC) that includes a 100 Hz/200 Hz cab signaling system, and an NJT ASES II Positive Stop. ISR will write the system requirements, interface requirements, and procurement language. Surren will also work with NJT to prepare and negotiate the bid estimate, and continue as an extension of the staff for bid phase support services.

Sr. Systems Estimator; THE Tunnel, NJ Transit (2007)
Surren provided estimating for signals, communications, power, and catenary for the independent cost estimate for the CM Consortium group on the new proposed Hudson River Tunnel for NJ Transit. THE Tunnel project will span New York and New Jersey which, when complete, will double the rail passenger capacity from New Jersey to midtown Manhattan.

Deputy Project Manager; MTA Capital Construction Security Program (2007-2010)
Surren has been supporting the MTACC Security Program in the Design and Implementation of various Electronic, Hardening, and Consequence Management projects. He estimated, negotiated, and served as Deputy Project Manager for MTACC for the first 18 months of the $300 million Lockheed Martin IESS/C3 Security Contract. He was responsible for field construction activities, early design tasks, and cost and schedule controls for the project.

Deputy Project Manager; MTA Capital Construction, Various Communication Projects (2007-2009)
Surren also managed various security and communications tasks for MTACC. These include the IESS design for the Atlantic and Jamaica Complexes and the GCT Fire Life Safety Project. He is

currently involved with the Conceptual Design and Procurement for the MTAPD-SWN Wireless Project. He is responsible for estimating and negotiating this $150 million Wireless Project and will later support MTACC in the Construction Management of the project.

MTA Capital Construction – Cost Manager, Major Project Initiatives (2007-2009)

In parallel with his PM/CM duties, Surren serves as Cost Manager in charge of Systems for MTACC. He reviews/prepares cost estimates and negotiates signals, communications, security, and power systems projects; performs risk analysis, constructability reviews and various other program management tasks for security projects, Fulton Transit, South Ferry, East Side Access, No. 7 Extension and 2nd Avenue Subway Projects.

Staten Island Railway Signal System Modernization, MTA NYCT (2000-2003)

Surren served as the System Integration Manager for the joint venture partnership for this $100 million design-build project. Surren was responsible for the design, interface management, system integration/engineering, training, EMI/EMC, and start-up and testing for all systems on the project, as well as project and construction management support.

Automatic Train Supervision Project (ATS-A) (1998-2000)

As Signal Engineer, Surren performed design reviews, shop drawing reviews, field surveys and various design management tasks for the project.

Canarsie Line Signal Modernization, MTA NYCT (1997-1998)

As Project Engineer on the Canarsie Line CBTC Signal System, the first communication-based train control system in the United States. Surren supervised a team providing technical support and cost engineers preparing estimates for various construction alternatives.

I. M/WBE Participation

I. W/MBE Participation

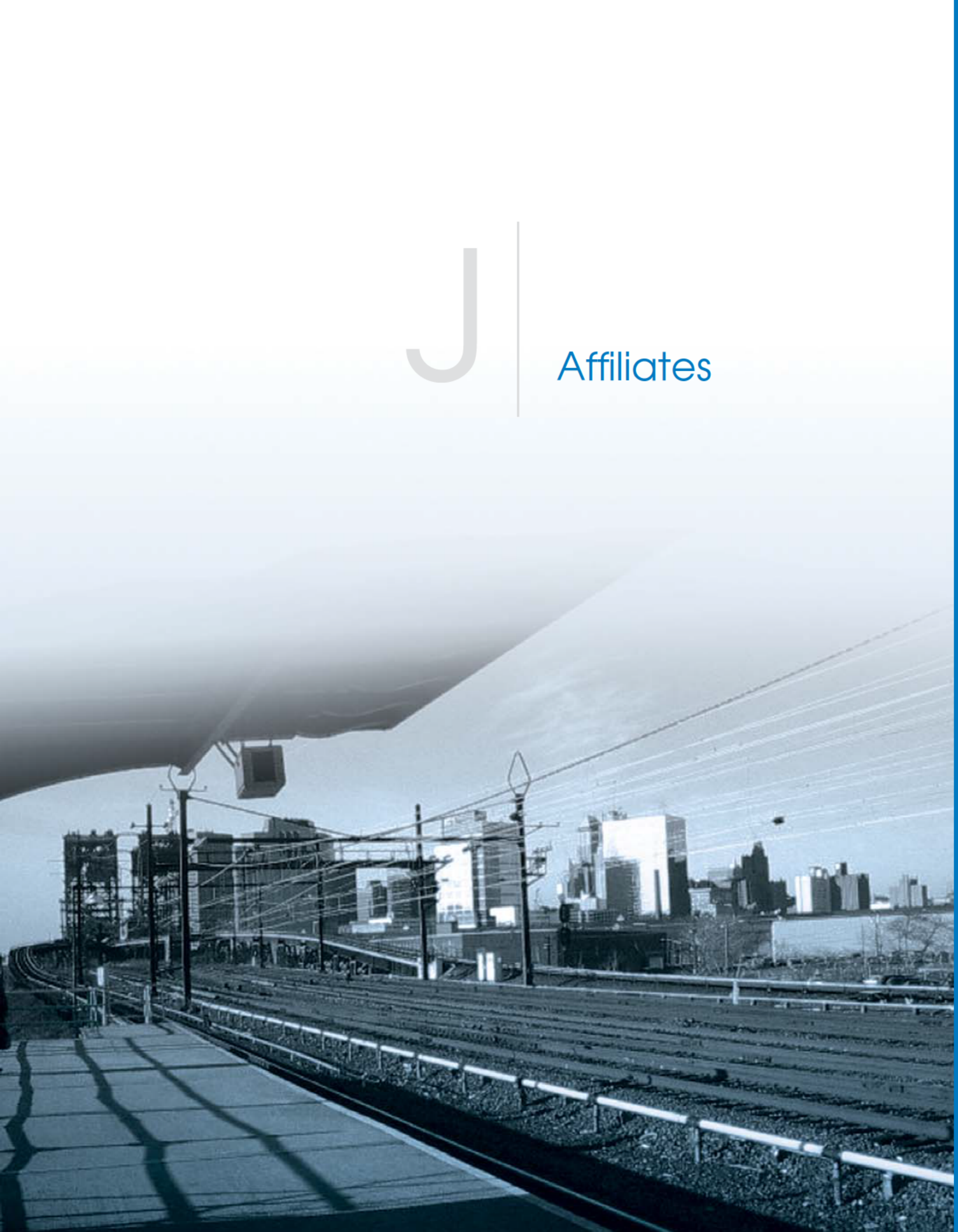
Plan to meet MBE/WBE Goals:

For this project, the Parsons team will ensure meaningful MBE/WBE participation to maximize participation of the firms.

Parsons will utilize a certified MBE Subconsultant, JCMS to perform scheduling services. They will develop the Master Schedule and perform updates on a monthly. JCMS has expertise performing this same task in a full time role as seconded for PATH. When comparing the needs of the project to JCMS' capabilities, we anticipate meeting or exceeding the 12% MBE Goal.

Parsons will also use a certified WBE Sub-consultant, ISR to perform cost estimating services. ISR has a wide a variety of transit related cost estimating experience including work for PATH and has an excellent history of performing work in the role as seconded staff. After considering the needs of the project, we anticipate meeting or exceeding the 5% WBE Goal.

J Affiliates



J. Affiliates

3D/I Limited (3DIL)
Incorporated State: England
Principal Place of Business: First Floor Holborn Gate, 330 High Holborn
London, WC1V 7QT, United Kingdom

3D/International, Inc. (3DI)
Incorporated State: Texas
Principal Place of Business: 1900 West Loop South, Suite 400
Houston, TX 77027, U.S.A.

Amtex Supply Company, Inc. (AMTEX)
Incorporated State: Texas
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Arroyo Seco Building Limited Partnership (ARROYO)
Incorporated State: California
Principal Place of Business: 109 East Colorado Boulevard
Pasadena, CA 91105, U.S.A.

Barton-Aschman Associates, Inc. (BA)
Incorporated State: Delaware
Principal Place of Business: 1133 15th Street, NW
Washington, DC 20005-2701, U.S.A.

Barton-Aschman Associates, Inc. of Ohio (BA-OH)
Incorporated State: Ohio
Principal Place of Business: 3040 Riverside Drive
Columbus, OH 43221, U.S.A.

Bonifica S.p.A. (BONIFICA)
Incorporated State: Italy
Principal Place of Business: c/o Richard Reddy, Parsons
1133 15th Street,NW, Washington, DC 2005-2701
U.S.A.

Chas. T. Main of Louisiana, Inc. (CHAS-LA)
Incorporated State: Louisiana
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Chas. T. Main, Inc. (CHAS-TWO)
Incorporated State: Massachusetts
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Computer Sciences Parsons LLC (CSPLLC)
Incorporated State: Oklahoma
Principal Place of Business: 7535 5th Street, Building 400
Tinker AFB, OK 73145, U.S.A.

Contingency Response Services LLC (CRSLLC)
Incorporated State: Delaware
Principal Place of Business: 8445 Freeport Parkway, Suite 400, Irving, TX 75063, U.S.A.

Crossett (CROSSETT)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

DZSP 21 LLC (DZSP)
Incorporated State: Delaware
Principal Place of Business: 1818 Market Street, 22nd Floor
Philadelphia, PA 19103-3672, U.S.A.

De Leuw (Malaysia) Sdn. Bhd. (DMSB)
Incorporated State: Malaysia
Principal Place of Business: No. 81-A, Lorong Mamanda 1, Ampang Point
68000 Ampang, Selangor Darul Ehsan
Malaysia

De Leuw, Cather & Company (DCCO-TWO)
Incorporated State: Illinois
Principal Place of Business: 1133 15th Street, N.W.
Washington, DC 20005-2701, U.S.A.

De Leuw, Cather International Inc. (DCII)
Incorporated State: Illinois
Principal Place of Business: 10 S. Riverside, Suite 400
Chicago, IL 60606, U.S.A.

De Leuw, Cather International Limited (DCIL(DE))
Incorporated State: Delaware
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003, U.S.A.

ES Environmental Services, Inc. (ES2)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

EXi Parsons Telecom Inc. (EXIINC)
Incorporated State: Delaware
Principal Place of Business: 715 N. Glenville Drive, Suite 430
Richardson, TX 75081, U.S.A.

EXi Parsons Telecom LLC (EXILLC)
Incorporated State: Delaware
Principal Place of Business: 715 N. Glenville Drive, Suite 430
Richardson, TX 75081, United States of America

Fair Oaks Consultants, Inc. (FAIROAKS)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Finley McNary Engineers, Inc. (FME)
Incorporated State: Florida
Principal Place of Business: 3500 Financial Plaza,Suite 300
Tallahassee, FL 32312, U.S.A.

GS 21 LLC (GS21LLC)
Incorporated State: Delaware
Principal Place of Business: 1818 Market Street
Philadelphia, PA 19103, U.S.A.

H. E. Hennigh, Inc. (HENNIGH)
Incorporated State: Georgia
Principal Place of Business: c/o Parsons Construction Group Inc., 1216 140th Avenue Court E
Sumner, WA 98390, U.S.A.

HealthCare Facilities, LLC (HCF)
Incorporated State: Tennessee
Principal Place of Business: 401 South Fourth Avenue, 9th Floor, Louisville, KY 40202, U.S.A.

Holding S.r.L. (HOLDING)
Incorporated State: Italy
Principal Place of Business: c/o Richard Reddy, Parsons
1133 15th Street, NW, Suite 800
Washington, DC 20005, U.S.A.

IAP-Parsons, LLC (IAP-PLLC)
Incorporated State: Delaware
Principal Place of Business: 7315 North Atlantic Avenue
Cape Canaveral, FL 32920, U.S.A.

Inspection & Maintenance Corporation (I&M)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

International Aviation Consultants, L.L.C. (IACLLC)
Incorporated State: Georgia
Principal Place of Business: 524 West Peachtree Street
Atlanta, GA 30308, U.S.A.

KP Leasing Company (KPLC)
Incorporated State: Nebraska
Principal Place of Business: Kiewit Western Co.
1000 Kiewit Plaza, Omaha, NE, U.S.A.

Keifer Engineering, Inc. (KEIFER)
Incorporated State: Delaware
Principal Place of Business: The Parsons Building
16055 Space Center Boulevard, Suite 725
Houston, TX 77062-6269, U.S.A.

Kirklin Architect P.C. (KAPC)
Incorporated State: New York
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

META Associates, Inc. (META)
Incorporated State: Kentucky
Principal Place of Business: 401 South Fourth Avenue
9th Floor, B&W Tower, Louisville, KY 40202, U.S.A.

Main Construction Management, Inc. (MCMI)
Incorporated State: Massachusetts
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Main Constructors, Inc. (MCI)
Incorporated State: Delaware
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Main Sunnyside, Inc. (SUNNYSIDE)
Incorporated State: Utah
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Marengo Systems, Inc. (MARENGO)
Incorporated State: Texas
Principal Place of Business: The Parsons Building
16055 Space Center Boulevard, Suite 725
Houston, TX 77062-6269, U.S.A.

McMunn Associates, Inc. (MAI)
Incorporated State: Virginia
Principal Place of Business: 198 Van Buren Street, Suite 250
Herndon, VA 20170, U.S.A.

Michael Walsh Limited (MWL-TWO)
Incorporated State: Cork, Ireland
Principal Place of Business: Airport Business Park, Unit 4600
Cork, Ireland

P & F Architectural Services, P.C. (P&F)
Incorporated State: Oregon
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

PARCAN, Inc. (PARCAN)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

PARSONSECUADOR Cia. Ltda. (P-ECUADOR)
Incorporated State: Ecuador
Principal Place of Business: E4-41 Av. Patria
La Mariscal, San Blas
Quito, Pichincha, Ecuador

PFI Design, P.C. (PFIDPC(MA))
Incorporated State: Massachusetts
Principal Place of Business: 150 Federal Street
Boston, MA 02110, U.S.A.

PTG Construction Services Company (PTGCSC)
Incorporated State: Delaware
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003, U.S.A.

PTGI, Inc. (PTGI)
Incorporated State: Delaware
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003, U.S.A.

Parfinco EWA, Inc. (EWAINC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parfinco EWA, LLC (EWALLC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, , U.S.A.

Parfinco NC, LLC (PARFINCONC)
Incorporated State: Delaware
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parfinco TX, LLC (PARFINCOTX)
Incorporated State: Delaware
Principal Place of Business: 16055 Space Center Boulevard
Houston, TX 77062, U.S.A.

Parfinco, Inc. (PARFINCO)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parmetek, S.A. De C.V. (PARMETEK)
Incorporated State: Mexico (State not specified)
Principal Place of Business: 1A Cerrada de Santa Lucia No. 38
Santa Lucia, Delegacion Alvaro Obregon
Mexico, D.F., C.P. 01400, Mexico

Parsons Advanced Technologies Inc. (PAT)
Incorporated State: Delaware
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Architectural Services of Illinois Inc. (PAS-IL)
Incorporated State: Illinois
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Architecture of Florida Inc. (PA-FL)
Incorporated State: Florida
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons China Inc. (PCHINA)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Commercial Services Inc. (PCSI)
Incorporated State: California
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Commercial Technology Group Inc. (PARCOMM)
Incorporated State: Delaware
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Construction & Engineering Inc. (PC&ENG)
Incorporated State: Washington
Principal Place of Business: 1216 140th Avenue Court E
Sumner, WA 98390, U.S.A.

Parsons Construction & Environmental Inc. (PC&ENV)
Incorporated State: Washington
Principal Place of Business: 1216 140th Avenue Court E
Sumner, WA 98390, U.S.A.

Parsons Construction Group Inc. (PCG)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Construction Services Inc. (PCSI(WA))
Incorporated State: Washington
Principal Place of Business: 1216 140th Avenue Court E
Sumner, WA 98390, United States of America

Parsons Constructors & Fabricators Inc. (PC&F)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Constructors Inc. (PCI)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Corporation (PC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Development Company (PDC)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Engineering Inc. of Michigan (PEI-MI)
Incorporated State: Michigan
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Engineering Inc. of Ohio (PEI-OH)
Incorporated State: Ohio
Principal Place of Business: 26301 Curtiss Wright Parkway, Suite 100, Richmond Heights, OH 44143, U.S.A.

Parsons Engineering Limited (PEL2)
Incorporated State: Cork, Ireland
Principal Place of Business: Unit 4600, Airport Business Park
Cork, Ireland

Parsons Engineering Science International, Inc. (PESII)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Engineering Science, Inc. (PES)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Engineering of New York, Inc. (PE-NY)
Incorporated State: New York
Principal Place of Business: 301 Plainfield Road, Suite 350
Syracuse, NY 13212, U.S.A.

Parsons Evergreene, LLC (EVERGREENE)
Incorporated State: Delaware
Principal Place of Business: 1132 South 500 West
Salt Lake City, UT 84101, U.S.A.

Parsons Facilities Services Company - California (PFSC-CA)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Facility Management Corporation (PFMC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Facility Services Company (PFSC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Federal Services Inc. (PFSI)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Global Services Inc. (PGSI)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Global Services, Ltd. (PGSL)
Incorporated State: Cayman Islands (B.W.I.)
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003-3515, U.S.A.

Parsons Group International Limited (PGIL2)
Incorporated State: England
Principal Place of Business: Fl 1, Holborn Gate, 330 High Holborn
London WC1V 7QT, United Kingdom

Parsons Group Services Pte Ltd (PGSPL)
Incorporated State: Singapore
Principal Place of Business: 8 Cross Street
#11-00 PWC Building, Singapore 048424

Parsons Hanford Fabricators Inc. (PHFI)
Incorporated State: Washington
Principal Place of Business: 3005 East Ainsworth Street
Warehouse 5, Pasco, WA 99301, U.S.A.

Parsons Harland Bartholomew & Associates Inc. (PHBA)
Incorporated State: Delaware
Principal Place of Business: 400 Woods Mill Road, South, Suite 330
Chesterfield, MO 63017-3427, U.S.A.

Parsons Infrastructure & Technology Group Inc. (PI&T)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Infrastructure & Technology Group Inc. of Ohio (PI&T-OH)
Incorporated State: Ohio
Principal Place of Business: 4055 Executive Park Drive, Suite 300, Cincinnati, OH 45241, U.S.A.

Parsons Inspection & Maintenance Corporation (PI&M)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons International & Company LLC (PI&CL)
Incorporated State: Oman
Principal Place of Business: The Old Ericsson Building
Way No. 4149, Al Khuwair, Muscat, Sultanate of Oman

Parsons International Corporation, L.L.C. (PICL)
Incorporated State: Cayman Islands (B.W.I.)
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons International Limited (PIL(NV))
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons International Limited (PIL(DE))
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Investments Corp. (PIC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Main of New York, Inc. (PM-NY)
Incorporated State: New York
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Main, Inc. (PMI)
Incorporated State: Massachusetts
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Middle East Corporation (PMEC)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Overseas Company (POC)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Overseas Company of Canada Ltd. (POC-CN)
Incorporated State: Canada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Overseas Limited Inc. (POLI)
Incorporated State: Delaware
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003, U.S.A.

Parsons PATCO Inc. (PATCO)
Incorporated State: Delaware
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons Parking Company, Inc. (PARPARK)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA, U.S.A.

Parsons Professional Corporation (PPROC)
Incorporated State: District of Columbia
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Project Services, Inc. (PPSI)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons RCI Inc. (RCI)
Incorporated State: Washington
Principal Place of Business: 1216 140th Avenue Court E
Sumner, WA 98390, U.S.A.

Parsons RCIE Inc. (RCIE)
Incorporated State: Washington
Principal Place of Business: 1216 140th Avenue Court E
Sumner, WA 98390, U.S.A.

Parsons RDS Inc. (PRDSI)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons RDT&E Services Company (RDT&E)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons S.I.P. Inc. (PSIP-TWO)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Savannah Construction Company (PSCC)
Incorporated State: South Carolina
Principal Place of Business: 1080 Silver Bluff Road
Aiken, SC 29803, U.S.A.

Parsons Savannah Services Company (PSSC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Services Company (PSCO)
Incorporated State: Texas
Principal Place of Business: The Parsons Building
16055 Space Center Boulevard, Suite 725
Houston, TX 77062-6269, U.S.A.

Parsons Technical Support Inc. (PTSI)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Tournament for Life Corp. (PTFLC)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons Transportation Concessionaires LLC (PTCLLC)
Incorporated State: Delaware
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003, U.S.A.

Parsons Transportation Group Inc. (PTG)
Incorporated State: Illinois
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003, U.S.A.

Parsons Transportation Group Inc. of Michigan (PTG-MI)
Incorporated State: Michigan
Principal Place of Business: 26777 Central Park Boulevard, Suite 275, Southfield, MI 48076, U.S.A.

Parsons Transportation Group Inc. of Ohio (PTG-OH)
Incorporated State: Ohio
Principal Place of Business: 3040 Riverside Drive, Suite 224
Columbus, OH 43221, U.S.A.

Parsons Transportation Group Inc. of Virginia (PTG-VA)
Incorporated State: Virginia
Principal Place of Business: 3926 Pender Drive, Suite 100
Fairfax, VA 22030, U.S.A.

Parsons Transportation Group of New York, Inc. (PTG-NY)
Incorporated State: New York
Principal Place of Business: 100 Broadway
New York, NY 10005, U.S.A.

Parsons Transportation Group, Professional Corporation (PTGPC)
Incorporated State: District of Columbia
Principal Place of Business: 100 M Street, SE, Suite 1200
Washington, DC 20003, U.S.A.

Parsons Water & Infrastructure Inc. (PW&I)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons of Mississippi, Professional Corporation (P-MS)
Incorporated State: Mississippi
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons of North Carolina Inc. (P-NC)
Incorporated State: North Carolina
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

Parsons of Puerto Rico Professional Engineers, P.S.C. (P-PR)
Incorporated State: Puerto Rico (U.S. Terr.)
Principal Place of Business: 361 San Francisco Street
Old San Juan, PR 00901, U.S.A.

Parsons-Jurden Corporation (PJC)
Incorporated State: New York
Principal Place of Business: 100 Broadway
New York, NY 10005, U.S.A.

Parsons-UXB Joint Venture (PUXB)
Incorporated State: Hawaii
Principal Place of Business: 1357 Kapiolani Boulevard, Suite 1120, Honolulu, HI 96814, U.S.A.

Partnership for Temporary Housing LLC (PATHLLC)
Incorporated State: Delaware
Principal Place of Business: 3190 Fairview Park Drive, Suite 350, Falls Church, VA 22042, U.S.A.

Process Facilities, Inc. (PFI)
Incorporated State: Massachusetts
Principal Place of Business: 150 Federal Street
Boston, MA 02110, U.S.A.

Protect Air Corp. (PACORP(CN))
Incorporated State: Canada
Principal Place of Business: 1959 Upper Water Street, Suite 800, P.O. Box 997, Halifax, NS B3J 2X2
Canada

Protect Air Corporation (PACORP(DE))
Incorporated State: Delaware
Principal Place of Business: 2751 John Street
Markham, ONT L3R 2Y8, Canada

Protect Air Pennsylvania, Inc. (PAPAI)
Incorporated State: Pennsylvania
Principal Place of Business: 979 East Park Drive
Harrisburg, PA 17111, U.S.A.

Research and Development Solutions, LLC (RDSLLC)
Incorporated State: Delaware
Principal Place of Business: 3604 Collins Ferry Road, Suite 200, Morgantown, WV 26505, U.S.A.

S.I.P. Engineering, Inc. (SIP-TWO)
Incorporated State: Delaware
Principal Place of Business: The Parsons Building
16055 Space Center Boulevard, Suite 725
Houston, TX 77062, U.S.A.

S.I.P., Inc. (SIPI)
Incorporated State: Delaware
Principal Place of Business: The Parsons Building
16055 Space Center Boulevard, Suite 725
Houston, TX 77062, U.S.A.

Saudi Arabian Parsons Limited (SAPL)
Incorporated State: Saudi Arabia
Principal Place of Business: P.O. Box 31421
Al Khobar 31952, Saudi Arabia

Sonpar Corp. (SONPAR)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

St. John's Place Consultants, Inc. (STJOHN)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Steinman Boynton Gronquist & Birdsall (SBGB)
Incorporated State: New York
Principal Place of Business: 100 Broadway
New York, NY 10005, U.S.A.

Steinman Boynton Gronquist & Birdsall Inc. (SBGBI)
Incorporated State: New Jersey
Principal Place of Business: 100 Broadway
New York, NY 10005, U.S.A.

Steinman Inc. (SI)
Incorporated State: New York
Principal Place of Business: 100 Broadway
New York, NY 10005, U.S.A.

The Alaris Group, LLC (ALARIS)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

The C. T. Main Corporation (CTM)
Incorporated State: Massachusetts
Principal Place of Business: 4701 Hedgemore Drive
Charlotte, NC 28209, U.S.A.

The Ralph M. Parsons Company (RMP-TWO)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

The Ralph M. Parsons Company of Michigan (RMP-MI)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

The Ralph M. Parsons Electronics Company (RMPEC)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

The Ralph M. Parsons Services Company (RMPSC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Wholesale Supply Co., Inc. (WHOLESALE)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Engineering-Science Development Corporation (ESDC)
Incorporated State: Delaware
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A

Parsons Architecture of New Jersey P.C. (PA-NJ)
Incorporated State: New Jersey
Principal Place of Business: 200 Cottontail Lane
Somerset, NJ 08873, U.S.A.

Parsons Engineering GmbH (PEGMBH)
Incorporated State: Germany, Federal Republic of
Principal Place of Business: c/o Mütze Korsch Rechtsanwaltsgesellschaft mgH
Trinkausstr. 7, D-40213
Düsseldorf, Germany

Parsons Hanford Services Group LLC (PHSGLLC)
Incorporated State: Washington
Principal Place of Business: 1955 Jadwin, Suite 330
Richland, WA 99352, U.S.A.

Parsons Water Resources, Inc. (PWRI)
Incorporated State: California
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

Parsons-Jurden International Corporation (PJIC)
Incorporated State: Nevada
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

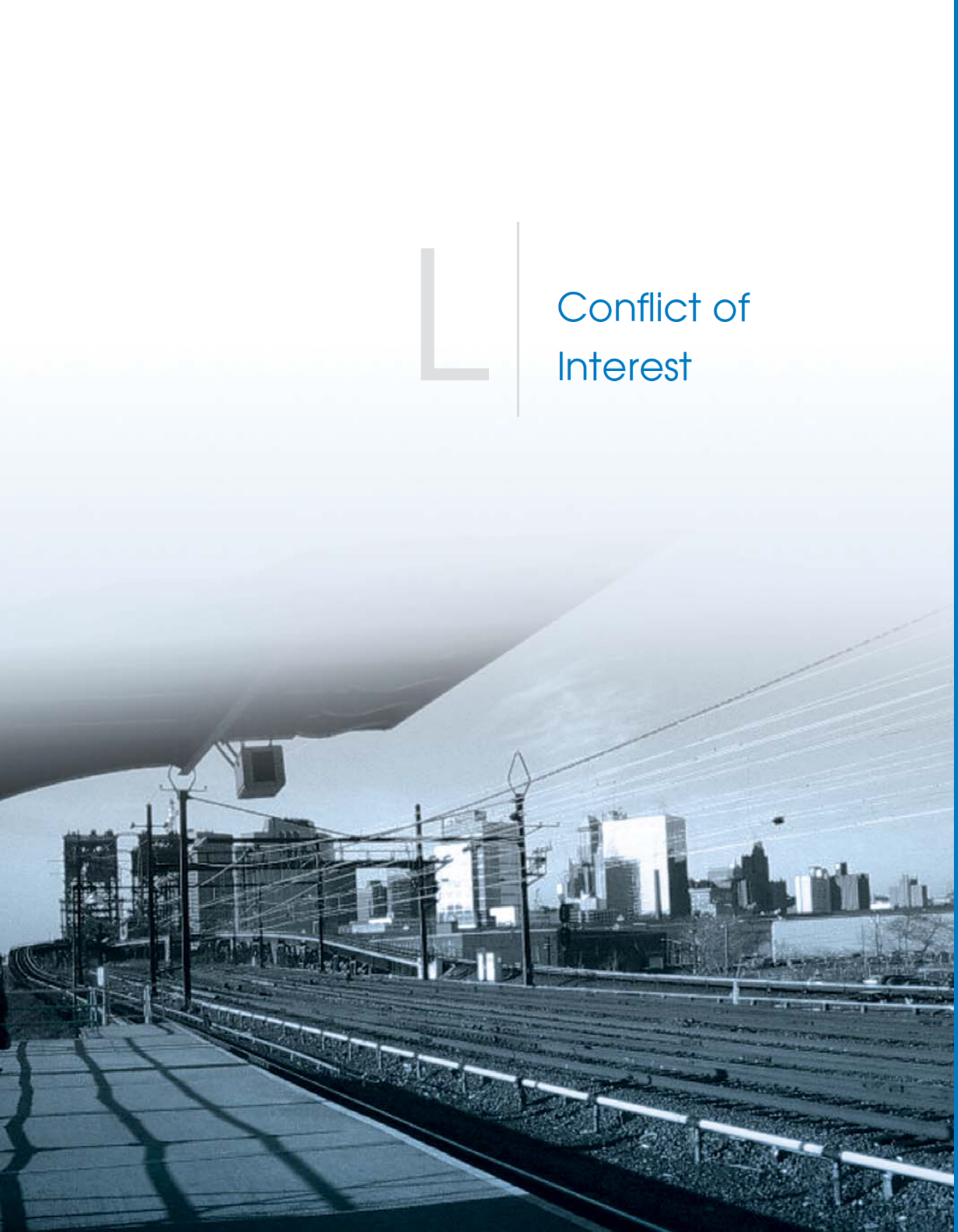
RMP International, Ltd. (RMPI)
Incorporated State: Turks & Caicos Islands (B.W.I.)
Principal Place of Business: 100 West Walnut Street
Pasadena, CA 91124, U.S.A.

K Contract Exceptions

K. Contract Exceptions

Parsons has no Exceptions to the Contract.

L Conflict of Interest



L. Conflict of Interest

Parsons has no conflict of interest for this project.

PARSONS

100 Broadway, 20th Floor, New York, NY 10005

PROPOSAL

THE PORT AUTHORITY OF NY & NJ

PERFORMANCE OF

EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT & RELATED SERVICES

AS REQUESTED ON A CALL-IN BASIS DURING

2010-2014 for the

PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

RFP #19980

STV Incorporated

Table of Contents

A. *Agreement on Terms of Discussion*
B. *Transmittal Letter*
C. *Cost*
D. *Firm Qualifications and Experience*
E. *Staff's Qualifications and Experience*
F. *Technical Approach*
G. *Management Approach*
H. *Subconsultants*
I. *M/WBE Participation*
J. *Affiliates*
K. *Contract Exceptions*
L. *Conflict of Interest*

2010

2011

2012

2013

2014

ATTACHMENT B

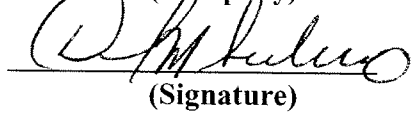
PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation thereof (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Authority website at *http://www.panynj.gov/AbouttthePortAuthority/ContactInformation/foi_policy.html*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

STV Incorporated
(Company)


(Signature)

Dominick M. Servedio, PE, Chairman/Director
(Title)

January 14, 2010
(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

2010

2011

2012

2013

2014

STV

January 14, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010
Attn: RFP Custodian

Reference: Proposal for the Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-in Basis During 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH) (RFP #19980)

Dear RFP Custodian:

The Port Authority Trans-Hudson Corporation (PATH), a wholly owned subsidiary of the Port Authority of New York and New Jersey (PANYNJ), serves as a vital link in the critically important New York – New Jersey transportation network. Due to increased ridership in recent years, PATH has developed a Capital Program of improvements in order to meet future demands. PATH has recently undertaken a review of its Capital Program in order to identify challenges to its delivery and has established a Logistics Planning Group to oversee coordination of its various projects and resources. PANYNJ is seeking the assistance of consultant firms to provide planning, oversight, and related program/project management support services to PATH's Logistics Planning Group on a call-in basis during 2010 through 2014.

STV Incorporated (STV)'s proven track record of delivering successful projects to PATH and PANYNJ, as well as our extensive experience working on projects on a call-in basis, makes us ideally suited for this contract. Our senior team members have served in responsible positions in rail construction management and rail operations, and have first-hand experience in oversight, construction management, and project controls. We understand the importance of coordinating multiple stakeholders for the concurrent and contiguous construction of multiple capital projects, and the constraints related to "track rights," facility forces, equipment and staging facilities.

STV Team/Key Staff

STV's management procedures and extensive and diverse staff resources enable the firm to provide PATH and the PANYNJ with the quick response and quality work that task-order projects demand. Our team offers the combined resources of more than 600 staff members in New York City, alone, including the proposed key staff members for this project. Each of the following key staff meets the RFP criteria of working on a minimum of three rail capital programs valued at more than $50 million in construction within the last five years:

AN EMPLOYEE-OWNED COMPANY PROVIDING QUALITY SERVICE SINCE 1912 | 225 PARK AVENUE SOUTH
NEW YORK, NEW YORK 10003-1604
(212) 777-4400 FAX: (212) 529-5237

Anthony Cracchiolo, PE – Senior Planning Manager

- PANYNJ World Trade Center Transportation Hub ($2.87 billion, 2002-2006)
- NJ Transit Trans-Hudson Express (THE Tunnel) ($7.2 billion, 2006-Present)
- Amtrak Improvements Project – Program Management Task-Order Contract ($561 million, 2009 - 2011)
- Director of Priority Capital Programs/Program Director PANYNJ AirTrain JFK ($1.9 billion, 1996-2006)

Daniel Maine – Field Coordinator

- NJ Transit Newark City Subway Broad Street Extension CM ($120 million, 2003-2006)
- NJ Transit Broad Street Station Capacity Relief and ADA Improvements Project CM ($52 million, 2007-Present)
- NJ Transit Bridge Construction Program - 69th Street Grade Separation and Roadway Improvements, and Newark Drawbridge ($50 million, 2008-Present)

Joseph North – Plan Coordinator

- Newark City Subway Broad Street Extension ($120 million, 2003 -2006)
- Hudson Bergen Light Rail Minimum Operating Segment 2, Hoboken to Lincoln Harbor Segment ($200 million, 2000 - 2004)
- Hudson Bergen Light Rail Minimum Operating Segment 2, Lincoln Harbor to Port Imperial Segment ($83 million, 2003 - 2005)
- Hudson Bergen Light Rail Minimum Operating Segment 2, Port Imperial to Tonnelle Avenue segment ($271 million, 2004 - 2006)

Armen Boyajian, PE – Scheduler

- PANYNJ WTC Vehicular Security Center and Tour Bus Parking Facility ($533 million, 2006-Present)
- WMATA Dulles Corridor Metrorail Link Extension GEC ($2.5 billion, 2005-Present)
- CATS South Corridor Light Rail Project ($371 million, 2004-2005)

David Kirk, AIA, CCC, CCS, CVS, LEED® AP – Cost Engineer

- World Trade Center PATH Transportation Hub ($2.87 billion, 2003-Present)
- MTA/LIRR East Side Access ($8.5 billion, 1998-Current)
- NYCT Second Avenue Subway ($20 billion, 2002-Present)

STV commits these key staff members, as well as the team members listed on our organization chart in Section G, Management Approach, for the duration of this contract. We have previously demonstrated this commitment on numerous past projects for the PANYNJ and PATH, including the World Trade Center Transportation Hub, One World Trade Center and Memorial, AirTrain JFK, and many others.

Firm Experience
STV's project experience in capital rail projects far exceeds the minimum requirement of $50 million within the past five years. These projects include:

- World Trade Center PATH Transportation Hub ($2.87 billion, 2003-Present)
- MTA/LIRR East Side Access ($8.5 billion, 2012)
- Dulles Corridor Metrorail Link Extension ($4 billion, 2015)

Detailed descriptions of these and other program management projects are included in Section D, Firm Qualifications and Experience.

MBE/WBE Participation
STV has selected a team of highly qualified, M/WBE subconsultant firms to supplement our in-house services on this contract. We are committed to meeting or exceeding the 12% MBE and 5% WBE participation goals established by PANYNJ for this contract, and have designated the following firms to support us on this contract: **PACO Group, Inc. (MBE)** for scheduling/estimating support; **KS Engineers, P.C. (MBE)** for construction inspection support; and **Matrix New World Engineering, Inc. (WBE)** for field coordination support/environmental issues.

Should we be invited to a presentation for this project, Anthony Cracchiolo, PE, our proposed Senior Planning Manager, may be contacted at Anthony.Cracchiolo@stvinc.com. Our alternate contact, Joseph North, Plan Coordinator, may be contacted at Joseph.North@stvinc.com.

STV is proposing as a single entity for this contract. We acknowledge receipt of Addendum No. 1, dated December 22, 2009, and Addendum No. 2, dated January 11, 2010.

Thank you for the opportunity to submit our proposal. As Chairman and Director of STV, I offer my full commitment to making sure that the necessary resources will be dedicated to making this program a success.

Very truly yours,

Dominick M. Servedio, PE
Chairman/Director

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   STV Incorporated

2. Business Address (to receive mail for this RFP):

   225 Park Avenue South

   New York, NY 10003

3. Business Telephone Number: (212)777-4400

4. Business Fax Number: (212)529-5237

5. Firm website: www.stvinc.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: ____/____/ 1912

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   See Attached

9. Officer or Principal of Firm and Title:

   Dominick M. Servedio, PE, Chairman/Director

10. Name, telephone number, and email address of contact for questions:
    Anthony Cracchiolo, PE, (973)642-2292

    anthony.cracchiolo@stvinc.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

Affiliates/Subsidiaries

Name and Tax ID# of Firm	Address
STV Architects, PC [redacted]	One Riverfront Plaza Newark, NJ 07102
STV Architects, I, P.C. [redacted]	205 West Welsh Drive Douglassville, PA 19518
STV Architects, Inc. [redacted]	205 West Welsh Drive Douglassville, PA 19518
STV Construction, Inc. [redacted]	225 Park Avenue South New York, NY 10003
STV Construction Services, Inc. [redacted]	205 West Welsh Drive Douglassville, PA 19518
STV Security Solutions Group [redacted]	225 Park Ave South New York, NY 10003
STV Environmental, Inc. [redacted]	205 West Welsh Drive Douglassville, PA 19518
STV Group, Incorporated [redacted]	205 West Welsh Drive Douglassville, PA 19518
STV Massachusetts, Inc [redacted]	225 Park Avenue South New York, NY 10003
STV Middle East, Inc. [redacted]	225 Park Avenue South New York, NY 10003
STV Canada Consulting, Inc. Incorporation # [redacted]	225 Park Avenue South New York, NY 10003
STV Incorporated [redacted]	225 Park Avenue South New York, NY 10003
STV International, Inc. [redacted]	205 West Welsh Drive Douglassville, PA 19518
STV Silver & Ziskind [redacted]	225 Park Avenue South New York, NY 10003
Silver & Ziskind/STV [redacted]	225 Park Avenue South New York, NY 10003
STV/Michael Lynn Associates [redacted]	205 West Welsh Drive Douglassville, PA 19518
STV/WAI, Inc [redacted]	205 West Welsh Drive Douglassville, PA 19518

Name and Tax ID# of Firm	Address
STV Canada Architects, Inc. Business No. [redacted]	225 Park Avenue South New York, NY 10003
STV Canada Construction, Inc Incorporation No. [redacted]	225 Park Avenue South New York, NY 10003

PATH
Category 1
Task
Task
Task
Category 2
Task
Task
Task
Category 3
16
23
30
21
22
47
28
29

NEWARK
PATH
2010
2011
2012
2013
2014

C. Cost

C. Cost

Multiplier:

We have included in this section projected overhead rates for STV Incorporated and STV Construction, Inc. for our fiscal year ending September 30, 2010, as our proposed project team includes staff members from both of these entities. The rates do not include profit. With a 10% profit, the fully loaded multipliers calculate as follows:

STV Incorporated

Office	2.59
Field	2.30

STV Construction, Inc.

Office	2.43
Field	2.14

Documentation supporting these rates follows in this section.

Hourly Pay Rates:

Anthony Cracchiolo	$136.24
Daniel Maine	$57.00
Joseph North	$88.95
Armen Boyajian	$76.21
David Kirk	$72.51
Michal Keppel	$41.23
Ruwan Rajapakse	$52.90
Steven Prest	$62.50
William Reininger	$88.70
Sadia Janjua	$39.82
Hany Estefanos	$35.01

Dominick M. Servedio, PE, our proposed **Principal-in-Charge**, will not bill his services on this project.

STV Incorporated
Fiscal Year Ending September 30, 2010
Overhead Computation
Projected

HOME OFFICE LABOR	59,529,251		
FIELD OFFICE LABOR	21,517,298		
TOTAL LABOR	81,046,549		
SCHEDULE "A"	**TOTAL**	**HOME**	**FIELD**
GROUP I - Indirect Labor	21,314,844	15,687,725	5,627,119
GROUP II - Labor Related Fringe Benefit Expenses	35,539,239	26,156,880	9,382,359
GROUP III - Materials and Services	1,910,747	1,675,153	235,594
GROUP IV - Travel and Other Services	18,057,356	14,754,481	3,302,875
GROUP V - Rent and Occupancy Expenses	11,752,257	10,857,355	894,902
GROUP VI - Depreciation & Amortization	374,085	348,273	25,812
TOTAL SCHEDULE "A"	88,948,528	69,479,867	19,468,661
TOTAL SCHEDULE "B" - Management Services	14,850,901	10,930,263	3,920,638
TOTAL OVERHEAD	103,799,429	80,410,130	23,389,299
OVERHEAD %	128.07%	135.08%	108.70%

STV Construction Inc
Fiscal Year Ending September 30, 2010
Overhead Computation
Projected

HOME OFFICE LABOR	3,660,563		
FIELD OFFICE LABOR	14,118,540		
TOTAL LABOR	17,779,103		
SCHEDULE "A"	**TOTAL**	**HOME**	**FIELD**
GROUP I - Indirect Labor	3,479,000	716,674	2,762,326
GROUP II - Labor Related Fringe Benefit Expenses	7,378,048	1,519,878	5,858,170
GROUP III - Materials and Services	226,530	96,922	129,608
GROUP IV - Travel and Other Services	2,434,699	737,284	1,697,415
GROUP V - Rent and Occupancy Expenses	1,209,857	705,285	504,572
GROUP VI - Depreciation & Amortization	32,775	20,091	12,684
TOTAL SCHEDULE "A"	14,760,909	3,796,134	10,964,775
TOTAL SCHEDULE "B" - Management Services	2,993,537	616,669	2,376,868
TOTAL OVERHEAD	17,754,446	4,412,803	13,341,643
OVERHEAD %	99.86%	120.55%	94.50%

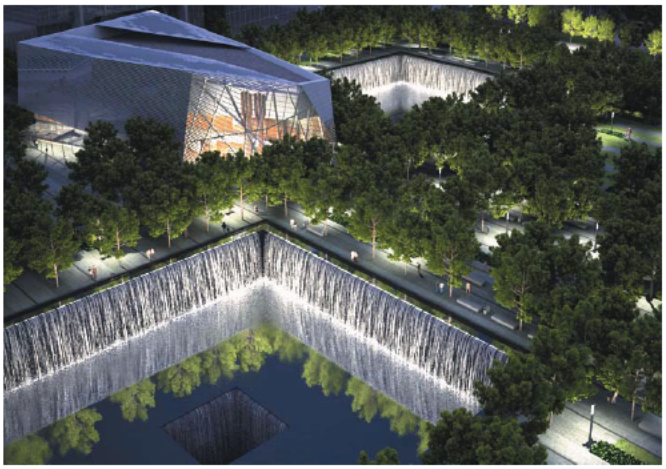
PATH
2010
2011
2012
2013
2014

D. Firm Qualifications & Experience

Cost Control and Project Management Services for World Trade Center (WTC) Projects

New York, NY

Client: Port Authority of New York and New Jersey (PANYNJ)
Reference: Steven Plate, Director of World Trade Center Construction (212) 435-5529
Completion Date: 2014 (Estimated)



STV is developing, implementing, and managing a cost engineering and cost estimating program to integrate and control costs among all projects composing the redevelopment of the 16-acre World Trade Center (WTC) site in Lower Manhattan, NY. Services include comprehensive cost engineering reports and trend analyses, independent estimate evaluations, analysis of bids, and independent scheduling and logistics review. The program is comprised of the following structures: One World Trade Center, the Memorial and Museum, the Transportation Hub, and the Vehicular Security Center.

Construction of this highly complex redevelopment project has already begun within the logistically challenging project site. To assist PANYNJ in facilitating a guaranteed maximum price, as well as rigorous budgetary control, the leadership of STV's Project Controls department has been engaged to independently evaluate the cost of the entire project. Throughout the course of this task, STV has chaired numerous reconciliation and negotiation meetings with the construction management team, independent cost consultants, and contractors, and has actively participated in design meetings to clarify specific elements of the project that have the potential to escalate the cost. STV's cost-engineering role requires an independent assessment of all elements impacting the cost of the project, including labor and material limitations, design challenges, constructability issues, and coordination with and among the other significant WTC projects.

This project task has required a special sensitivity to PANYNJ's needs. The Project Controls department has successfully created the appropriate "firewall" between its activities and those of STV's design personnel, as well as the other project stakeholders, to effectively and accurately evaluate the project cost of the Transportation Hub and other WTC site elements for which the firm is providing design.

World Trade Center Transportation Hub

New York, NY

Client: Port Authority of New York and New Jersey (PANYNJ)
Reference: Steven Plate, Director of World Trade Center Construction (212) 435-5529
Completion Date: 2009

As an integral part of the reconstruction of the World Trade Center (WTC) and the larger revitalization of Lower Manhattan, the permanent World Trade Center Transportation Hub is one of New York City's most important and visible transportation infrastructure projects. STV, as part of a joint venture working in association with renowned Spanish architect Santiago Calatrava, S.A., is providing design services for the new transit Hub. STV is providing preliminary and final civil, structural, mechanical,

electrical, and plumbing engineering design for the project. The firm is also the Architect-of-Record responsible for making this dramatic architectural vision a reality.

The Hub will include a permanent PATH terminal; pedestrian connections that will significantly improve access to PATH, ferries, and 13 Lower Manhattan subway lines; greater open space in the Wedge of Light Plaza, named for the use of natural sunlight in astronomically marking the time of the 9/11 attacks; and state-of-the-art safety, security, and environmental enhancements. The new PATH Terminal will serve more than 80,000 daily riders, thousands of other commuters and residents, and millions of expected annual visitors to the World Trade Center Memorial.

Work on the new Hub requires extensive coordination with public agencies such as NYCT, MTA, NYCDOT, NYSDOT, and LMDC, as well as with utility companies and private stakeholders. One of the main challenges of the project is that other projects are being designed and are to be constructed concurrently, including Route 9A, the Freedom Tower WTC Memorial, the memorial museum, a visitor orientation and education center, and Fulton Street Transit Center. Since the Hub links to those projects, should the design for any of those projects change, the Hub design must be updated as well. The project also requires complex construction staging to maintain the temporary PATH terminal and NYCT subway service during construction of the Hub.

Houston METRORail Project Management

Houston, TX

Client: Houston METRO
Reference: John Sedlak, METRO Executive Vice President
[redacted]
Completion Date: 2004

STV supported the efforts of the Houston Metropolitan Transit Authority (METRO) in managing the development of a new start light rail transit system in Houston. With a highly ambitious schedule and a very restrictive budget, STV staff worked with METRO personnel to function as the Project Management Team (PMT). The PMT administered and oversaw every component of the program. STV assisted METRO in setting the clear direction needed to meet timetables and to establish the contract packaging and phasing that enabled the project to move quickly, while maintaining high quality. The project was fast-tracked and completed in a record-breaking four years, which was 10 months ahead of schedule. As design-build was prohibited in Texas at the time, STV recommended overlapping the design and construction, while maintaining those separate contracts.

The specific project management services STV provided are detailed below.

Document Development

STV's initial responsibilities included assisting METRO in refining the Project Management Plan (PMP) and assisting in the development of a detailed

scope of work for the Preliminary A/E Consultant. As part of STV's overall management of the project, including design, we enlisted the participation of the Preliminary A/E Consultant in the development of key documents. We also established the design criteria in conjunction with the A/E consultant to make certain that "design to budget" objectives were pursued and cost-effective designs developed.

Engineering Work Plan

STV, in partnership with METRO and the A/E Consultant, developed an Engineering Work Plan to detail the various resource-loaded tasks that had to be performed, as well as the critical engineering interface points as the project advanced through the stages of design and construction. As managers of the overall design effort, STV conducted three formal design reviews, at the 30%, 65%, and 90% levels of completion.

Project Controls

The STV team assisted METRO in establishing a project control base of operations by augmenting METRO's existing procedures and processes for applicability to the project. We utilized an "earned value" method of determining progress, by an assessment of drawing and specification development versus expenditure.

Construction Management

As PMT, STV was responsible for all construction management on this project, coordinating between six construction contractors and the client. Under the fast-track approach, design and construction were conducted concurrently. STV, in concert with METRO, actively coordinated the interface of design and construction activities to provide a seamless process. The firm formulated and implemented a quality assurance plan, making sure that the independent quality control plan of each construction contractor was being diligently implemented.

The project was completed 10 months ahead of schedule, making it the fastest ever light rail system startup in a major urban area. The project won the Platinum Award in the Transportation Category from the American Council of Engineering Companies of New York's 2005 Engineering Excellence Competition, and the 2005 Gold Award in Engineering Excellence - Special Projects Category from the Texas Council of Engineering Companies.

East Side Access

Manhattan and Queens, NY

Client: MTA Capital Construction/ Long Island Rail Road
Reference: Alan Paskoff, Program Manager/ Chief of Staff
[redacted]
Completion Date: 2012

The Long Island Rail Road (LIRR) is the busiest

commuter railroad system in the country, yet its only entry into Manhattan is Penn Station. Penn Station has already reached its capacity and is constrained for future growth. The East Side Access project will ease congestion at Penn Station by offering direct service between Long Island and east Midtown Manhattan.

STV, in joint venture, is providing tunnel engineering services, including planning, environmental analysis, preliminary and final design engineering, and construction phase services, to extend LIRR service to Manhattan's East Side, terminating in Grand Central Terminal. STV is providing conceptual and preliminary design services for new LIRR facilities in Grand Central Terminal, a new LIRR station in Sunnyside, Queens, and various shop and yard facilities.

In Manhattan, multiple sites were studied and subsequently designed for station facility entrances and ventilation structures, as well as underground

construction for station facilities and vertical and horizontal circulation. This work required intensive coordination between architectural, structural, utility, civil, and maintenance and protection of traffic functions. Portions of the station structures needed to be staged in order to maintain Metro-North Railroad train and foot traffic in a secure and safe environment.

The entire $7.6 billion project, which includes $5.2 billion in construction costs, is the largest single construction program ever undertaken by MTA Capital Construction.

LRT Extensions Phases I & II

Dallas, TX

Client: Dallas Area Rapid Transit (DART)
Reference: Timothy McKay, Senior Vice President, DART Rail Program
[redacted]
Completion Date: 2003 (Phase I), 2013 (Phase II)

For many years, the Dallas Area Rapid Transit Authority (DART) has sought to provide Dallas and the surrounding metropolitan region with a fast, efficient light rail transit network. As a member of a joint venture team, STV has been working with DART since 1996 to help them achieve this goal, providing program management, design, and construction management for Phase I light rail extensions that have doubled DART's original starter rail network. Now, in Phase II, the firm is providing facilities program management, design, and construction management for another round of light rail extensions that will expand the transit system outwards to points further from Dallas.

Phase I

For the $400 million, 25-mile, 13-station light rail transit (LRT) build-out of the DART system, the joint venture provided program management, design, and construction management services. The partnership also oversaw all civil, structural, geotechnical, electrical, industrial, and mechanical engineering activities, as well as architectural design activities, and other activities related to the design production work for the program. All work was performed under a 5-year contract, with options for two 1-year extensions. In all, STV managed 11 major construction packages ranging in value from $9 million to $50 million each, and eight smaller construction packages, ranging from $500,000 to $4.5 million.

As program management consultant, STV and its joint venture partner worked as a fully integrated extension of DART staff, with responsibility for overall program management—including planning, organizing, staffing, and controlling all phases of the program—and for project-wide technical management. In this role, we developed comprehensive work scopes and provided guidance to section designers and other project designers to achieve completion of multiple, simultaneous work tasks under budget and on schedule. We were responsible for coordination of the entire design effort to make certain of continuity of design, consistency, and compatibility. We also provided a coordinated construction program for interfacing with other projects currently underway, for providing liaison with all agencies to meet legal requirements and secure approvals, and for providing assistance with a community participation process to foster community support.

As part of our program management responsibility, we identified tasks—such as long-lead time permits, conflicts with existing utilities, and conflicts with other ongoing projects—that would delay program implementation if not effectively addressed early on. We developed the GEC program's master schedule to make sure that all early-lead tasks were completed, and that any problems were resolved in time to prevent major delays in program implementation.

Scheduling

STV performed design and construction management scheduling for the Dallas Area Rapid Transit light rail system, including all street, highway, and utility work. For Phase I, STV's services included developing and implementing the scheduling effort for the engineering and construction management, use of a Tier III schedule of 3,100 activities, preparing a weekly update of significant milestones, and preparing a separate monthly report containing more summary information with forecasts. Services also included creating a design model schedule, codes and structure, developing Tier II schedules that mirrored the client's working schedule, and Tier III schedules. The team developed and evaluated different manpower-loaded construction scenarios in order to have a basis to evaluate the construction subcontract's schedule proposal. This schedule was also used to reevaluate the baseline schedule. STV won first place in the 2003 Engineering Excellence Awards (Transportation) from the Texas Council of Engineering Companies for Phase I.

Phase II

The second phase is extremely ambitious: while it took approximately 18 years for DART to build the 43 miles of trackwork, light rail stations, and maintenance capabilities currently in existence, Phase II will more than double this infrastructure in a much smaller time frame, adding 46 miles of track and 26 new stations in only eight years. The joint venture was responsible for the design of all facilities infrastructure, including ballasted, direct fixation, and embedded track, bridges, utilities, and grade crossings. As in Phase I, STV and its joint venture partners are working as a fully integrated extension of DART staff, with responsibility for overall facilities program management and for project-wide technical management.

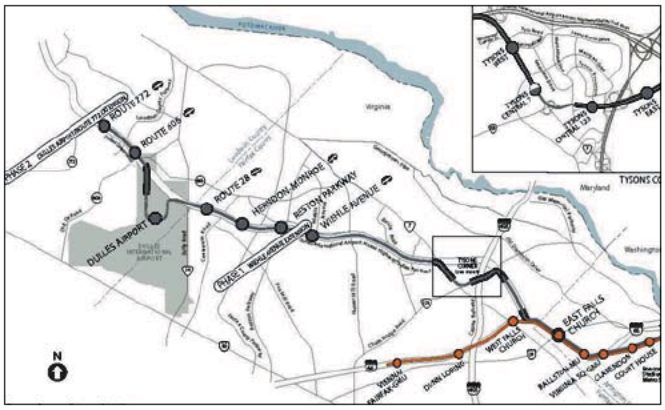
MWAA (Contract formerly held with Virginia DRPT) Dulles Corridor Metrorail Link Extension

Baltimore, MD

Client: Metropolitan Washington Airports Authority (MWAA)

Reference: Sam Carnaggio, PE [redacted] (cell)

Completion Date: 2012 (Phase I), 2015 (Phase II)



The Metropolitan Washington Airports Authority (MWAA), in cooperation with the Washington Metropolitan Area Transit Authority (WMATA), Fairfax County, Loudoun County, and formerly the Virginia Department of Rail and Public Transportation (DRPT), are working to construct a 23.1-mile, $4 billion New Starts extension of Metrorail in two phases. The first phase will include five stations, and the second phase will add six more stations.

In 2005, STV was retained as a subconsultant to complete cost estimating for the first phase of the extension. Shortly after the DRPT received the 50% preliminary engineering trended cost estimate showing that the original year-end cost of $1.5 billion had risen to $2.4 billion, STV was hired to assist with a quick cost reduction evaluation task. With only a one-week turnaround, STV provided information to the prime consultant so that they could provide a presentation and a report to DRPT on the findings.

STV was then retained to provide an independent cost estimate and a cost reduction study of the 50%

preliminary engineering estimate in order to get the project cost into the Federal Transit Administration (FTA) affordability range. A team of transit experts and cost estimators met to review the scope and finalize details, and immediately began interactively developing the work plan and approach with the DRPT leaders. The team undertook a two-step evaluation process, with a bottom-up construction cost estimate with all of the transit disciplines covered. Simultaneously, STV had a group of transit experts convene a weeklong cost reduction evaluation session. The firm's efforts resulted in a $1.8 billion cost estimate that the FTA could evaluate and accept in order to keep the project moving forward. STV's cost-reducing efforts enabled DRPT to submit the revised independent cost estimate on time to the FTA in order to compete for more than $900 million in federal funding, a key part of the financing plan.

Subsequently in 2006, STV was selected by DRPT for a General Engineering Consultant Services contract. The first assignment was to perform an independent cost estimate and cost reduction study for the 100% professional engineering trended cost estimate in order to reduce the contractor's cost from $2.37 billion to $2.06 billion.

General Architectural/ Engineering and Design Task-Order Contract

Various Locations, NJ

Client: NJ Transit
Reference: Les Eckrich, Senior Director
(973) 491-7217 (office)
[redacted] cell)
Completion Date: 2007

STV is providing a broad range of architectural and engineering design services, ranging from the planning/study phase through final design, under this task-order contract. To date, NJ Transit has awarded more than 15 task-order assignments to STV under this contract. Projects have ranged from park-and-ride expansions and rail station rehabilitations to track work, station security and communications, and rail and bus vehicle studies. Highlights of some individual projects are described below.

Newark Penn Station Communications Upgrade

STV provided 100% design for the communications upgrade at Newark Penn Station in Newark, NJ. The design included the upgrade of the passenger information displays and public address system to a new intelligible and dynamic system using the latest network technologies.

Meadows Maintenance Complex (MMC) Track 8 Extension, Kearny, NJ

STV designed an extension of the existing Track 8 in the Locomotive Shop of the Meadows Maintenance Facility (MMC) in Kearny, NJ. The extended track connects to yard ladder tracks to provide run-through capability for added flexibility and improved accessibility to the drop table. The extended portion of the track will also be utilized for general locomotive maintenance and repair operations.

STV faced the challenge of satisfying NJ Transit's Mechanical Department operational needs within budget limits. In addition, the extremely confined space posed access and constructability challenges.

Newark Penn Station CADD Services for Communication Systems

STV provided engineering and CADD services to NJ Transit for the development of bid documents for the construction of improvements to the passenger communications systems at Newark Penn Station in Newark, NJ. Montreal, QC H2Y 2W2, Canada STV also provided project management of NJ Transit staff and coordination with the engineering staff for structural and mechanical, plumbing and electrical design within Newark Penn Station.

Ridgewood Station Accessibility Improvements, Ridgewood, NJ

The Ridgewood train station in Ridgewood, has been designated as a Key Station under NJ Transit's Key Station Master Plan, and therefore must be accessible to riders with disabilities. STV provided architectural and engineering services for the construction of outside high-level platforms.

ALP-46 Locomotive Engineering Assistance [Task Order 30], Newark, NJ

Task Order #30 will provide ongoing assistance to NJ Transit during the resolution of miscellaneous issues aimed at enhancing the performance and reliability of their ALP-46 fleet, which consists of 29 new, high-horsepower electric locomotives. STV also provided project management services to NJ Transit during its procurement of this fleet between 1999 and 2004. These locomotives were delivered on time and within budget, and they have since become the mainstay of the NJ Transit electric locomotive fleet.

River Line Cost Estimating, Trenton to Camden, NJ

The NJ Transit River Line is a light rail transit line developed on the former Conrail River Line along the Delaware River. The transit line was constructed through a design-build-operate-maintain contract from 1998 to 2004 when service opened. STV provided on-call cost estimating services for the closeout of the construction of the River Line. Work included verification of change orders through the development of independent estimates to determine that the contractor submittals were fair and reasonable.

NJTC
PATH
Task Category 1
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Task Category 2
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Task
Task
Category 3
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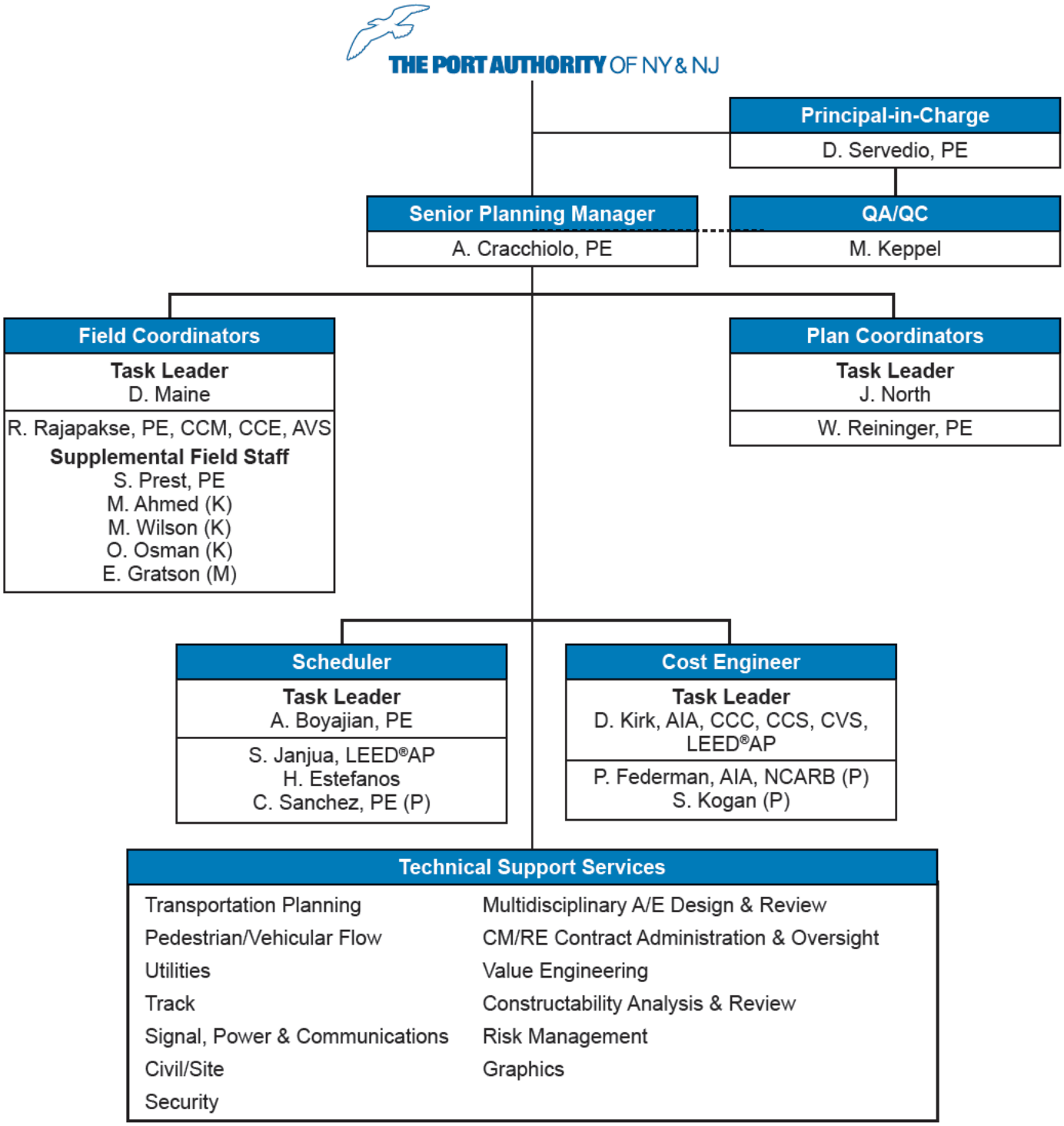
30
21
22
47
28
29

NEWARK
PATH
2014
2013
2012
2011
2010



P - PACO Group, Inc. (MBE)
K - KS Engineers, P.C. (MBE)
M - Matrix New World Engineering, Inc. (WBE)

Dominick M. Servedio, P.E.

Principal-in-Charge

FIRM
STV

Education
Master of Science, Business Administration; St. John's University

Bachelor of Science, Electrical Engineering; New York University

American Management Association Courses

Computer Technology; Control Data Institute

Professional Registration
Professional Engineer: New Hampshire, Massachusetts, Virginia, and Maine

Memberships
Society of American Military Engineers (SAME)

Chairman, New York Building Congress

New York Association of Consulting Engineers

The Council on Transportation

Mr. Servedio has been a leader in the New York City transportation industry for more than 45 years. From his start at New York Central Railroad, to management positions at the MTA and LIRR, to his present role as Chairman and Director of STV, he has dedicated himself to overseeing the improvement of transportation and infrastructure in the city and surrounding region. His willingness to take an active role in all of the projects he leads is demonstrated by his extensive interface with clients, stakeholders, and affiliated city agencies, including a two-decade working relationship with the Port Authority of New York and New Jersey (PANYNJ). Mr. Servedio currently oversees more than $10 billion worth of assignments across the country, including the $4.3 billion MTA Capital Construction/Long Island Rail Road East Side Access Project, the $5 billion Cross Harbor Freight Movement Program, and the $400 million DART Light Rail Extensions. During his tenure, STV has become the nation's leading engineering firm involved in design-build contracting for transit systems, including the $1.3 billion PANYNJ AirTrain JFK light rail system, the $1 billion New Jersey Transit Hudson-Bergen Light Rail Transit System, and the $100 million Amtrak Northeast Corridor Acela High-Speed Rail Maintenance Facilities.

Project Experience

PANYNJ World Trade Center Transportation Hub - Principal-in-Charge

Holding overall executive oversight for this $2 billion project to reconnect New Jersey's PATH line to New York City and serve as a transit hub for the New York City subway system at the World Trade Center site in Manhattan, NY. This intermodal facility, whose acclaimed design is by Santiago Calatrava, connects the WTC PATH station to the 1, 9, N, and R subway lines, as well as the NYCT Fulton Street Transit facility and the World Financial Center.

PANYNJ AirTrain JFK - Principal-in-Charge

Held executive responsibility for the complete architectural and engineering design and construction support services for the $1.3 billion design-build-operate-maintain project, which consists of an 8.4-mile light rail system with 10 award-winning intermodal stations and a sophisticated Operations, Maintenance, and Storage Facility (OMSF). The new system links the entire New York metropolitan region to JFK International Airport in Queens, NY, significantly reducing travel time.

MTA Capital Construction/LIRR East Side Access - Member, Board of Control/Principal-in-Charge

Overseeing the tunnel engineering contract portion of this $4.3 billion project to extend Long Island Rail Road (LIRR) service to the historic Grand Central Terminal, located on Manhattan's East Side. The project involves tunneling through hard rock in Manhattan, soft rock in Queens, and rehabilitation of an existing tunnel

under the East River. Design elements include a new station in Sunnyside, Queens County, rehabilitation of rail maintenance facilities and yards, and new intermodal station and platform facilities within Grand Central Terminal.

LIRR Line Improvements Program - Principal-in-Charge

Directed the firm's efforts in providing order of magnitude cost estimates for a variety of service improvement programs to enable the Long Island Rail Road to redefine their five-year capital program. STV analyzed the entire commuter system, made recommendations, and provided design for one of the approved programs: the double-tracking of approximately nine miles of the right-of-way.

NYCT Franklin Avenue Shuttle Line - Principal-in-Charge

Oversaw and provided corporate management and support for the condition, capital investment, and service alternatives study for this deteriorated rail line in Brooklyn, NY. The project included an in-depth conditions survey and assessment for a viaduct, bridges, station platforms, and trackwork. The study laid the groundwork for the successful rehabilitation of the line, designed by STV and responsible for sparking significant revitalization activities in the neighborhoods along the line.

NYCT Station Modernization and Renovations - Principal-in-Charge

Held executive oversight responsibilities for the extensive modernization and renovation of several of the most complicated rail passenger station complexes in Manhattan, including Fulton Street Station, Union Square Station, and Grand Central Station complex, as well as one station of the award-winning Franklin Avenue Shuttle Line in Brooklyn, NY. These efforts involved engineering design for improved passenger circulation, improved sight lines and safety, and new street level entrances.

LIRR Holban/Hillside Rail Maintenance and Storage Facility - Principal-in-Charge

Provided oversight as part of a capital construction program to improve efficiency and productivity in major functional areas of all maintenance and storage facilities on the system. The 68.4-acre complex is composed of three major buildings: a 500,000-sf, 14-track facility that houses equipment repair shops, a 380,000-sf component overhaul and support facility, and a 32,000-sf wheel truing and undercar cleaning facility.

Employment History:

1999 - Present	*President and Chief Executive Officer, STV Group*
1993 - Present	*President, STV Group*
1992 - Present	*Member Board of Directors, STV Group*
1987 - 1992	*Executive Vice President, STV Group*
1987 - 1992	*President and Chief Operating Officer, STV/ Seelye Stevenson Value & Knecht*
1977 - 1987	*Vice President of Transportation, STV/Seelye Stevenson Value & Knecht*
1973 - 1977	*Assistant Director, New York Metropolitan Transportation Authority*
1968 - 1973	*Project Manager, Electrification, Long Island Rail Road*
1967 - 1968	*Consultant, Citizens Utility Co.*
1962 - 1967	*Electrical Engineer, New York Central Railroad*

Memberships (Cont'd)

The Moles

American Public Transit Association

Awards

Receipient of the SAME Goethals Medal for "eminent and notable contributions in engineering, design, or construction"

Anthony G. Cracchiolo, P.E.

Senior Planning Manager

Firm
STV

Education
Master of Science, Transportation Planning and Engineering; Polytechnic Institute of New York

Bachelor of Engineering, Civil Engineering; Manhattan College

Professional Registration
Professional Engineer: New York and New Jersey

Memberships
American Society of Civil Engineers (ASCE)

National Society of Professional Engineers (NSPE)

The Moles

Mr. Cracchiolo, an STV senior vice president, brings more than 40 years of design, program, and construction management experience to this project. He formerly worked for the Port Authority of New York and New Jersey (PANYNJ) for 36 years. Mr. Cracchiolo has significant program management experience, including leading the planning effort for the World Trade Center Redevelopment Program, which involved redevelopment planning and management of the WTC site, the $566 million restoration of PATH service to Exchange Place, Jersey City, and Lower Manhattan, and the $2.2 billion redevelopment of the PATH Transportation Hub. Additional project management experience for PANYNJ includes the AirTrain JFK and AirTrain Newark, capital projects at JFK, LaGuardia, and Newark Airports, and redevelopment of the World Trade Center following the 1993 bombing. In addition, Mr. Cracchiolo's in-depth rail project experience includes review of the preliminary engineering effort for the Trans-Hudson Express (THE) Tunnel for NJ Transit, and review of the Denver Regional Transportation District (RTD)'s West Corridor Light Rail Transit line.

Project Experience

NJ Transit Trans-Hudson Express (THE) Tunnel - Manager of Peer Review Group/Project Advisor

Managing the independent peer review teams responsible for reviewing the preliminary engineering effort underway for the $7.2 billion Trans-Hudson Express (THE) Tunnel, which includes a new deep underground station in Manhattan at 34th Street and Broadway. Mr. Cracchiolo is also serving as advisor on the security analysis and design, as well as other aspects of the project including constructability, construction market analysis, and third-party coordination. The THE Tunnel will be the second Hudson River rail tunnel, augmenting the capacity of the 100-year-old tunnel to New York Penn Station.

PANYNJ - Former Director of Priority Capital Programs/Program Director AirTrain JFK

Responsible for leading a team of PANYNJ and consultant staff to plan and implement priority capital projects and mega-projects rapidly and cost effectively. This $1.3 billlion project features an innovative, elevated track structure, ten award-winning stations, and a sophisticated operations, maintenance, and storage facility.

PANYNJ WTC Redevelopment Program - Former Director of Priority Capital Programs

Led the planning for the $11.4 billion redevelopment program at the World Trade Center (WTC) site in Lower Manhattan. The project included the development of the site master plan with New York City, New York State, the Lower Manhattan Development Corporation (LMDC), the WTC lessee, and other public and private

stakeholders, including extensive public outreach. It also included restoration and management of the WTC Site and the $566 million restoration of PATH Service to Exchange Place, Jersey City, and Lower Manhattan, and the $2 billion redevelopment of the WTC Port Authority Trans-Hudson (PATH) Transportation Hub. He also directed the planning for other Lower Manhattan transportation improvements, including the JFK/LIRR Lower Manhattan Access Study and more than $2 billion in subgrade site infrastructure, including utilities, a tour bus parking facility, and a vehicular security and screening center. Mr. Cracchiolo oversaw federal, lessee, and other funding negotiations and grant approvals; conceptual and preliminary engineering and environmental reviews for the Transportation Hub; and the development of transportation, commercial, security, and sustainable design guidelines.

Amtrak Improvement Project, Program Management Task Order Contract – Project Manager

Manages and coordinates 56 task orders on this project, for which STV is serving as a major subconsultant. Amtrak, via the American Recovery and Reinvestment Act of 2009 (ARRA) has been appropriated $1.3 billion through the Federal Railroad Administration, to construct, renovate, repair and/or upgrade its properties. Amtrak has identified 394 projects nationwide eligible for ARRA funding, including utilities and right-of-way upgrades, bridge replacements, station construction and restoration, security, fire and life safety enhancements, and station access and mobility improvements, totaling $561 million. Mr. Cracchiolo's responsibilities include preparation of design/build bridging documents for bid in an accelerated timeframe to make certain of substantial completion of construction by the successful contractors by February 2011. Additional work may include review of the design/build contractor's final design and construction inspection, and oversight during construction.

Employment History:

1996	*Director of Priority Capital Programs; Port Authority of New York and New Jersey*
1994 - 1996	*Assistant Director/Program Director; Port Authority of New York and New Jersey*
1987 - 1994	*Engineering Program Manager; Port Authority of New York and New Jersey*
1990 - 1991	*Facility Division Manager; Port Authority of New York and New Jersey*
1984 - 1987	*Engineer for Infrastructure Division; Port Authority of New York and New Jersey*
1983	*Special Task Force Member; Port Authority of New York and New Jersey*
1980 - 1984	*Engineering Project Manager; Port Authority of New York and New Jersey*
1969 - 1980	*Structural Engineer; Port Authority of New York and New Jersey*

Michael Keppel

Quality Assurance/Quality Control

Mr. Keppel is a quality systems manager with more than 10 years of experience providing oversight and managing quality assurance and quality control (QA/QC) programs, and performance audits for corporations, military operations, government contracts, and the Port Authority of New York and New Jersey (PANYNJ)'s multi-billion dollar redevelopment of the World Trade Center (WTC) site. He is familiar with all industry and government standards and regulations, including the International Organization for Standardization (ISO), Federal Transit Administration (FTA), and International Trade Administration (ITA) standards.

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Education
Diploma; Potts Grove Senior High School, Pottstown, PA

Certifications
American Society for Quality (ASQ)

Secure Communications Systems Technician; United States Air Force (USAF)

IDNX/Promina Multiplex Certification

Optical Transport Certification; Fujitsu

Transmission System Certification; Alcatel

LAN/WAN Lightening Force Academy Certification; United States Air Force (USAF)

Logistic Inventory Control and Management Certification

Project Experience

PANYNJ WTC Transportation Hub - Design Quality Engineer

Developed and managed several QA/QC programs compliant with ISO, FTA, and client requirements for the design of the $2 billion permanent WTC Transportation Hub in Lower Manhattan. The hub will include a permanent PATH terminal, pedestrian connections that will significantly improve access to PATH, ferries, and 14 Lower Manhattan subway lines, as well as state-of-the art safety, security, and environmental enhancements. Mr. Keppel performed internal and external quality system audits, project compliance and performance audits, and also internal design package audits on all client submittals. He provided oversight of the subcontractors' QC functions and all review of design, documentation control functions, and secure documents in compliance with PANYNJ Secure Information Practice and Procedures.

PANYNJ WTC Vehicle Security Center - Design Quality Engineer/ Deputy Security Information Manager

Developed and managed several QA/QC programs compliant with ISO, FTA, and client requirements for the construction of a $500 million vehicle security center at the WTC site in Lower Manhattan. The new facility will implement security precautions to protect new public investments at the WTC site. Mr. Keppel performed internal and external quality system audits, project compliance and performance audits, and also internal design package audits on all client submittals. He provided oversight of subcontractors' QC functions and all design review and documentation control functions. Mr. Keppel developed and oversaw employee and subcontractor compliance and training programs, including project control ITA standards compliance training. He provided QA and oversight of identification, logging, transmitting and tracking of secure documents in compliance with PANYNJ Secure Information Practice and Procedures. He prepared and presented quality system performance metrics and coordinated with civil, mechanical, and electrical engineering and transit design teams for development and QA of manuals and specifications.

PANYNJ WTC Streets/Infrastructure Project - Design Quality Engineer/ Deputy Security Information Manager

Developed and managed several QA/QC programs compliant with ISO, FTA, and client requirements for traffic and pedestrian operations studies that encompass the larger area surrounding the 16-acre WTC redevelopment site. The project includes development of dynamic simulation models using VISSIM to provide design guidance by assessing the impact of tour bus operations along Greenwich Street and the impact of the screening process at the WTC Vehicular Security Center on Vesey Street. Mr. Keppel performed internal and external quality system audits, project compliance and performance audits, and also internal design package audits on all client submittals. He provided oversight of subcontractors' QC functions and all design review and documentation control functions. Mr. Keppel developed and oversaw employee and subcontractor compliance and training programs, including project control compliance training for ITA standards. He provided QA and oversight of identification, logging, transmitting, and tracking of secure documents in compliance with PANYNJ Secure Information Practice and Procedures. He prepared and presented quality system performance metrics and coordinated with civil, mechanical, and electrical engineering and transit design teams for development and QA of manuals and specifications.

MCI Communications - Lead Technician/National Recovery Operative

Led the engineering, installation, and maintenance teams for nationwide communication services at MCI's office in Pottstown, PA. Mr. Keppel oversaw design, installation, and maintenance group operations, including design and engineering of high capacity transport and switched circuits, and development and QC manuals and specifications. He led the National Recovery Operations team for system restoration in the events of emergencies and natural disaster. He developed and oversaw technician compliance and training programs and performance audits. Mr. Keppel performed QA for group engineering design review and documentation control functions and QA/QC for redesign work on all levels of communications lines. He also ovesaw training programs for project control compliance to industry and government standards.

Lockheed Martin - Engineer/Technician

Provided design, installation, and maintenance for government contracts services for the Secure Communications Netrwork Center in Lockheed's office in Valley Forge, PA. Mr. Keppel provided engineering services for data, voice, command, and telemetry sytems and engineered, audited, and documented all circuits using AutoCad. He performed QC testing of systems, equipment, and layout designs, and installed, tested, and analyzed equipment performance.

Employment History:

2006 - 2008	*Design Quality Engineer/Deputy Security Information Manager, DMJM Harris*
2005 - 2006	*General Manager, Nu-tech Auto Repair and Environmental Services*
1992 - 2006	*Non-commissioned Officer in charge of Computer Maintenance and Network, LAN/WAN Installations, United States Air Force and 111th Fighter Group, Pennsylvania Air National Guard*
1999 - 2005	*Team Leader/Design Engineer, MCI Communications*
1996 - 1999	*Engineering Technician, Lockheed Martin*

Memberships (Cont'd)

Combat First Aid and Chemical Warfare Instructor Certification; United States Air Force (USAF)

Computer Skills

AutoCAD

Daniel F. Maine, Jr.

Task Leader - Field Coordination

Firm
STV

Education
Master of Science, Project Management; Thomas Edison State College

Bachelor of Arts, Organizational Management; Cabrini College

Training/ Certifications
Project Management Master's Certification; George Washington University

Drexel University Construction Management Courses

Mr. Maine has more than 25 years of experience with railroad maintenance and construction management. He worked for Amtrak for more than 23 years in a variety of roles, most recently as the Project Director of the Metropolitan Division. His expertise includes management of force account work, resident engineering, and supervision of third-party contractors. Mr. Maine's extensive experience has included providing direction to plan, initiate, and complete multidisciplinary project activities to meet project goals.

Project Experience

NJ Transit Broad Street Station Capacity Relief and ADA Improvements Project CM - Resident Engineer

Providing oversight for the quality control of construction contracts for the $52 million rehabilitation of this historic railroad station constructed in 1903 in Newark, NJ. The refurbished station is designed to improve ADA compliance and railroad operations mobility. Mr. Maine is responsible for verifying on-site safety and reviewing and approving site-specific work plans. He is responsible for the day-to-day management of the prime contractor and subcontractors. Mr. Maine reviews the contractor's 4-week schedule, attends weekly meetings to monitor construction progress, audits the contractor's daily work records, and prepares monthly status reports. He is also in charge of estimating, negotiating change orders, and resolving damage claims.

NJ Transit Newark City Subway Broad Street Extension CM - Resident Engineer

Oversaw quality control for four construction contracts for this $120 million project to extend the Broad Street subway in Newark, NJ. Mr. Maine verified on-site safety and reviewed excavation work plans. He was responsible for the day-to-day management of an at-grade segment. Mr. Maine reviewed the contractor's 2-week schedule, attended weekly meetings to monitor construction progress, audited contractor's daily work records, and prepared monthly status reports. He was in charge of budgeting pay items and contractor payment, as well as resolving damage claims.

NJ Transit Bridge Construction Program Construction/Project Management – Resident Engineer

Overseeing the quality control of $50 million of construction contracts for the rehabilitation of the Newark Drawbridge and approach spans, and the new construction of the 69th Street Grade Separation and Roadway Improvements, including the overhead bridge and approach spans. Mr. Maine is responsible for verifying on-site safety, reviewing and approving site-specific work plans, and the day-to-day management of the third party contractors and NJ Transit force account. He reviews the contractor's schedule, chairs meetings to monitor construction progress, audits the

contractor's daily work records, and prepares monthly status reports. He also provides estimating, negotiates change orders, and resolves damage claims. In addition, Mr. Maine provides design constructability reviews, initiates value engineering, and tracks design errors and omissions. He also oversees procurement, delivery, inspection, and storage of materials.

Amtrak Trenton Station Rehabilitation - Former Project Director

Provided early project support functions to NJ Transit on behalf of Amtrak. Mr. Maine served as NJ Transit's point of contact for all design and construction-related submittals. He coordinated and provided NJ Transit with engineering support personnel while NJ Transit conducted field surveys and inspection. Mr. Maine provided support functions during interim repairs to structures, and coordinated and scheduled all track and power outages associated with early design evaluations. He provided Amtrak communication support to NJ Transit to investigate relocating or protecting the Trenton Station Telephone facility during the construction phase. Mr. Maine also reconciled reimbursable costs for Amtrak force account work at the station.

Amtrak Metropolitan Division - Former Project Director

Managed all aspects of capital projects. Mr. Maine provided pertinent developmental and site-specific expertise to the engineering department so that projects were planned, estimated, implemented, and completed on schedule and within budget. He made sure Amtrak standards, procedures, and policies were adhered to in all programs and projects. He managed agency and third party projects on property owned or operated by Amtrak.

Amtrak/PANYNJ/NJ Transit Newark Airport Monorail - Former Amtrak Project Director

Directed the $450 million construction of a new railway station, new monorail station, and new interlocking to improve train operation at Newark Liberty International Airport in Newark, NJ. Mr. Maine coordinated construction efforts and oversaw safety engineering practices, train operations and construction scheduling, quality control, Amtrak force account work and third party contractor work, budgets, cost estimates, and change requests.

Amtrak/NJ Transit Morrisville Yard - Former Project Director

Directed the $50 million major improvements to the interlocking at the Morrisville train storage yard to enhance multi-unit (MU) train movement through the yard and to improve a major connection in the Northeast Corridor. Mr. Maine oversaw the addition of new switches and modifications to catenary and signal systems.

Employment History:

1998 - 2003 *Project Director, Metropolitan Division, Amtrak*
1997 - 1998 *Assistant Division Engineer, Metropolitan Division, Amtrak*
1994 - 1997 *Sr. Project Engineer, Metropolitan Division, Amtrak*
1991 - 1994 *Resident Engineer I, New York Division, Amtrak*
1989 - 1991 *Project Engineer, New York Division, Amtrak*
1988 - 1989 *Surveyor, New York Division, Amtrak*

Ruwan A. Rajapakse, P.E., CCM, CCE, AVS

Field Coordinator

Firm
STV

Education
Master of Science, Geotechnical Engineering; New Jersey Institute of Technology

Bachelor of Science, Civil Engineering; University of Moratuwa, Sri Lanka

Professional Registration
Professional Engineer: New Jersey and New York

Certified Construction Manager (CCM); Construction Management Association of America

Certified Cost Engineer (CCE); Association for the Advancement of Cost Engineering International (AACEI)

Mr. Rajapakse has more than 15 years of experience in project and construction management, geotechnical engineering, tunnel design, and environmental remediation. His project management experience includes coordinating among disciplines, overseeing contractors and subconsultants, monitoring costs and schedules, and supervising safety procedures. Mr. Rajapakse is adept at preparing proposals, scope of work documents, work plans, and design drawings.

Project Experience

Amtrak East and North River Tunnel Fire Standpipe Installation CM - Safety Engineer/Project Control Cost Engineer

Managed several contractors in the installation of a $40 million, 80,000-foot-long, 6-inch-diameter fire standpipe in the East River and North River tunnels in New York City. Mr. Rajapakse was responsible for project control; managing cost estimating, budgeting, cost forecasting; and reviewing contractor payments, as-built drawings, and closeout. He coordinated among several disciplines and supervised project safety. Mr. Rajapakse generated work summary and executive summary reports, attended meetings, created quantity tables and progress charts, and processed and reviewed change orders.

MTA Capital Construction/LIRR East Side Access - Project Engineer

Provided geotechnical engineering design for the underpinning of building foundations and retaining walls, subway tunnels, and cut-and-cover tunneling as part of the $4.3 billion project to extend the Long Island Rail Road (LIRR) service to Manhattan's East Side, terminating in Grand Central Terminal. Mr. Rajapakse designed the tunnel methodology, the waterproofing, and control measures using tunneling computer programs such as Unwedge, Phases, and DIPS.

NYCHA Highbridge Gardens Renovation CM - Lead Estimator

Leading estimating tasks for renovations to six 13-floor apartment buildings in the Bronx, NY, as part of STV's construction management (CM)/build requirements contract with the New York City Housing Authority (NYCHA).

TBTA Randall's Island Office Renovation - Resident Engineer

Provided daily supervision, coordination between disciplines, performed change order negotiations, and prepared monthly reports for a boiler replacement and utility tunnel upgrade at the main office facility of the Triborough Bridge and Tunnel Authority (TBTA) on Randall's Island, NY.

TBTA Brooklyn Battery Tunnel Utility Upgrade - Project Manager

Inspected contractors' work for quality and compliance with contract drawings, specifications, and relevant codes for this rehabilitation project at the Brooklyn Battery Tunnel, New York, for the Triborough Bridge and Tunnel Authority (TBTA). Mr. Rajapakse coordinated between disciplines, provided daily supervision, and performed cost estimating, change order negotiations, and closeout for a utility upgrade at the Tunnel.

NYCHA Johnson Houses Renovation CM - Assistant Project Manager

Managed the $44 million phased renovation of the Johnson Houses in Manhattan, NY, as part of STV's 3-year CM/build requirements contract with the New York City Housing Authority (NYCHA). Mr. Rajapakse also performed cost estimating and change orders.

DASNY NYCCT Namm Building CM - Project Manager

Oversaw exterior modernization and interior renovation of the 11-story Namm Building of New York City College of Technology (NYCCT) in Brooklyn, NY. Mr. Rajapakse's responsibilities included inspection of structural repair work to the roof, coordination between the school, DASNY, and contractors, cost estimating, change order negotiations, and closeout.

NYCSCA School Boiler Conversion Program - Project Officer/Project Manager

Provided construction management services to convert coal burning boilers into gas and oil in 10 schools in New York City. Mr. Rajapakse's responsibilities included coordination among multiple disciplines and reporting to client representatives, architects, and engineers, and staff and faculty members for the renovation and installation of new boiler systems. Mr. Rajapakse verified that all work complied with the client's budget, schedule, and safety requirements.

NYCSCA In-Tech Academy M.S./H.S. 368 - Resident Engineer

Managed structural inspection of foundations and pile caps, grade beams, slabs, columns, and beams for the new, 1,200-seat, 168,000-sf In-Tech Academy M.S./H.S. 368, located on Tibbett Avenue in the Kingsbridge section of the Bronx, NY. Mr. Rajapakse oversaw the contractors, coordinated amoung the disciplines, supervised safety, and managed change order negotiations.

Employment History:

1995 - 2000 Senior Engineer, Louis Berger & Associates Inc.
1992 - 1995 Senior Engineer, Soils Engineering Services Inc.
1989 - 1992 Geotechnical/Environmental Engineer, Converse Consultants East

Steven Prest, P.E.

Field Coordinator

Firm
STV

Education
Bachelor of Science, Civil Engineering; University of Rhode Island

Professional Registrations
Professional Engineer: New York and New Jersey

Computer Skills
Primavera P3, AutoCAD

Mr. Prest has more than 30 years of experience providing resident engineering and design services for multiple local and international transportation projects. He has managed complex tunnel projects, bridge and roadway rehabilitations and served as a lead designer on recent interstate, toll facility, and land-service highway projects. In addition, Mr. Prest provided support for many projects, including construction cost estimating, specifications development, shop drawing review, project scheduling, constructability review, value engineering and quality assurance functions, and was responsible for documenting the evolution of NJDOT procedures, including baseline document changes and quality initial advisories.

Project Experience

Amtrak New York Rail Tunnels Rehabilitation - Resident Engineer

Acted as a liaison between Amtrak and the construction contractor and supervised the inspection staff for the $30 million rehabilitation of the tunnels between Bergen County, NJ, and Manhattan. Mr. Prest coordinated with other projects underway in the tunnels, and the ventilation and evacuation shafts. The majority of the work was done during weekend track outages. Safety was a major aspect of the work, involving continuous air monitoring in the tunnel, coordination of track outages, disconnection of power to 25kV AC overhead catenary, 750V DC third rail, 2,300 V signal cable, and other life safety issues.

PANYNJ Newark International Airport CTA Bridge, At-grade Frontage Road, and Southern Access Roadway - Project Engineer

Performed an independent review of 90% design plans for the Newark International Airport (EWR) Redevelopment/Program Management group. Mr. Prest's review included the identification of major problems, conflicts in the design, insufficient details and recommendations for improvements of technical or presentation aspects of the designs.

NYCDOT Queensboro Bridge Reconstruction - Assistant Resident Engineer

Provided resident engineering services through project closeout for the rehabilitation of miscellaneous components of the Queensboro Bridge in Queens, NY. Mr. Prest performed a condition assessment of eyebar heads and pins on the main bridge truss and oversaw repairs to stonework.

NJDOT Rockaway Road over Morristown Line - Project Manager

Managed the feasibility assessment, final scope development, and initial design for replacement of the Rockaway Road Bridge over NJ Transit and the Rockaway River in Morris County, NJ. Mr. Prest was responsible for coordination with survey and geotechnical subconsultants, environmental and cultural resources specialists, the client, and local officials. He held meetings with local officials and convened a pub-

lic forum. During the final scope development process, he managed advanced design services, including a complete subsurface exploration program, utility discovery, and verification and preparation of preliminary right-of-way plans. Mr. Prest managed power outages that were required for work on structural borings adjacent to an electrified railroad, and coordinated schedule and safety requirements with NJ Transit. He also oversaw preparation of a scope development package in support of the recommended alternative.

NJDOT Route 31 Phases I and II - Senior Project Engineer/Project Manager

Oversaw the design of the widening of one mile of Route 31, Section 8P, including replacement of a highway bridge over a railroad, intersection and drainage improvements, and upgrading of horizontal and vertical roadway geometry. Mr. Prest was responsible for coordinating environmental, cultural resources and alternatives analysis studies, surveys, and highway design plans and reports.

NJTA Median Barrier and Guard Rail Improvements - Project Manager

Managed the design of improvements to NJ Turnpike's Route 95 northern extension, including median barrier, guard rail, lighting, and signing improvements. Mr. Prest prepared all aspects of design and contract documentation, approved contract plans, and provided construction engineering services.

NJDOT Route 24 Noise Barriers - Project Engineer

Provided final designs for 16,000 feet of noise barriers at sections I2L and 13A for a Type II retrofit project. Mr. Prest prepared design and contract documents, approved roadway contract plans, and provided construction engineering services.

NJTA Garden State Parkway Toms River Noise Barrier - Project Engineer

Performed field investigations and prepared final design plans for a 2,500-foot noise barrier, including drainage imporvements, adjacent to the Garden State Parkway toll plaza at Toms River. Mr. Prest approved roadway-contract plans and provided construction engineering services.

NJTA New Turnpike Sound Barriers - Project Engineer

Prepared designs of 6,000 feet of sound barrier along the North to South Outer (NSO) and South to North Outer (SNO) roadways of the NJ Turnpike. Mr. Prest was responsible for drainage and grading modifications, developing a sound barrier profile using acoustical design data, preparing roadway plans, developing maintenance and protection of traffic (MPT) plans, roadway specifications, cost estimates, and approving contract roadway plans.

Employment History:

2003 - 2009 Resident Engineer, Hatch Mott MacDonald
2002 - 2003 Senior Project Engineer, Dewberry-Goodkind, Inc.
1985 - 2002 Civil Engineer, The Louis Berger Group, Inc.
1981 - 1984 Design Engineer, Curran Associates, Inc.
1979 - 1980 Field and Office Engineer, King and Gavaris

Mukheet Ahmed

Supplemental Field Staff

Mr. Ahmed has over ten years of experience serving as a construction inspector on a variety of projects, including electrical/construction inspection for the PATH rail system.

Project Experience

PANYNJ, PATH Railroad System - Electrical/Construction Inspector

Responsible for oversight of multidisciplinary work performed by numerous contractors on the PATH railroad system. Work assignments include rehabilitation of electrical power and lighting equipment, system upgrades for alarm and communication equipment, and site work at stations, rail yards and tunnels. Work includes oversight of various types of contracting methods including lump sum, unit price and net cost contracts. Responsibilities include monitoring and reporting construction activities and cost expenditures, as well as coordinating various activities simultaneously.

Genergy Inc.

Managed the Data Automation engineering design department for advanced metering infrastructure AMI projects. The design involved installation of utility submeters for each tenant in various facilities to enable them to be remotely read. The data is being utilized for energy consumption analysis and for generating bills. He was responsible for managing the installation and maintenance of sub-metering systems at various remote clients to enable reliable data collection. Mr. Ahmed interfaced with clients to support requests for additional metering infrastructure; interfaced with all departments to prioritize and coordinate project resources in resolving potential issues; and provided regular status reporting to management.

Lockheed Martin Transportation Security Solutions - Unique Computer Inc.

Provided liaison and support on the design and installation of an access control and intrusion detection system fully integrated with a CCTV system involving hundreds of cameras and related hardware in challenging scenarios at various Metropolitan Transportation Authority (MTA) facilities. Work involved resource scheduling and field survey coordination for camera and equipment placement. Responsibilities included collecting, tracking, and maintaining project deliverables while monitoring deadlines. He proactively resolved potential design and construction issues; redlined drawings to reflect system design updates; and participated in customer design review meetings. Mr. Ahmed worked with clients, construction managers, design managers, subcontractors and CAD designers to prepare, quality check, and refine system design with received feedback for design drawing submittal packages, and supervised and trained engineers for support with system design and conducting field surveys. He supported project managers in developing change orders, maintained and up-

Firm
KS Engineers, P.C.

Education
Master of Science, Business Management; Rensselaer Polytechnic Institute RPI

Master of Science, Electrical Engineering; University of Bridgeport

Training
Certified by MTA Metro-North Railroad and MTA NYC Transit for safety procedures

Trained as an Area Coordinator by Bombardier Transportation to support first responders

General Electric (GE) certified for Triple Modular Redundancy (TMR) application on GE Fanuc Programmable Logic Controllers (PLCs)

Certified by Cabling Business Institute (CBI) and Association of Cabling Professionals (ACP)

dated hardware and equipment schedules, and generated a bill of materials based on the system design to aid in procurement.

Bombardier Transportation, JFK International Airport

Responsible for the installation of recording hardware for networked video and CCTV cameras at numerous sites, including station platforms, frontage areas, parking garages, inside of elevators, and other strategic locations associated with the AirTrain system. He reviewed system design and price quotes to make certain of conformity with specifications; participated in project meetings with customers, vendors, managers and other technical personnel through phases such as initial concept, field survey, design, tracking delivery, installation, troubleshooting, system burn-in and turnover per schedule; developed mechanisms for monitoring project progress and streamlined the communication among various contractors and system integrators; and made certain that safe installation practices were adhered to. Mr. Ahmed facilitated management of the project by scheduling labor and material resources efficiently, set event parameters, and coordinated hardware and software updates for users. Performed system diagnosis and health monitoring tasks, administered system access privileges, and retrieved achieved video for law enforcement and investigation purposes. He coordinated with vendors and Bombardier Transportation personnel for installation of fire alarm monitoring, its integration and testing with the existing fire alarm system, and reviewed the layout and supported the initiative for a new, web-based Building Management System.

Otis Elevator Company

Interfaced with various customers, management consultants, and third party vendors to formulate communication solutions for execution per schedule and within budget. He coordinated commissioning of radio communication, telephone, public address, passenger information systems, fire alarm and CCTV systems on the vehicles and the wayside at various automated people mover transit shuttle sites countrywide. Mr. Ahmed managed installation, repair, upgrade, maintenance, expansion and modification of communication subsystems, and coordinated integration of supplier networks to implement seamless operation with other APM subsystems, and he assisted in planning and installation of computer networks, CCTV systems, optical fiber, radio communication systems, fire alarm and phone systems, and their integration to the supervisory control and data acquisition systems.

Employment History:

2009 - Present	*Construction Inspector, KS Engineers, P.C.*
2008	*Construction Inspector, Genergy Inc. Aerotek Contract*
2007 - 2008	*Construction Inspector, Lockheed Martin Transportation Security Solutions, Unique Computer Inc. Contract*
2006 - 2007	*Construction Inspector, Bombardier Transportation, JFK International Airport, Aerotek Contract*
1998 - 2002	*Construction Inspector, Otis Elevator Company, a division of United Technologies Corporation*
1996 - 1998	*Inspector, Vitramon Incorporated*

Michael J. Wilson

Supplemental Field Staff

Firm
KS Engineers, P.C.

Education
Bachelor of Construction Management; Pratt Institute, New York, NY

AAS/Construction Engineering; New York City Technical College, Brooklyn, NY

Mr. Wilson is a construction professional with more than 20 years of experience. He has a track record of achieving project goals through hands-on management with attention to detail and strong follow-through. He has the ability to increase efficiency and promote teamwork through staff motivation, and can establish priorities and manage multiple projects simultaneously.

Project Experience

NJ Transit Task Order Contract Construction Management Services Structural Repairs to the North Jersey Coast Line Navesink River Bridge - Resident Engineer

Provided services for structural repairs to the Navesink River Bridge, which includes inspection of removal of deteriorated concrete pedestal foundations and installation of reinforcing steel and concrete repairs; replacement of deteriorated structural steel superstructure members, painting of steel members, handling all project correspondence including progress meetings, RFIs, progress payments, project records, shop drawings, monitoring of project schedules, change orders and project safety.

NJ Transit Task Order Contract Construction Management Services Rail Terminal Fueling Facility Upgrade at Atlantic City Train Station - Resident Engineer

Responsible for all administrative, coordination and inspection responsibilities, such as handling daily correspondence and all other duties as required, and supporting contractor and force account activities. Mr. Wilson was also responsible for providing overall construction coordination to make certain that the work progressed in accordance with approved contract plans and specifications and good engineering practices. He prepared and maintained standard correspondence, shop drawing, RFI, and similar logs utilizing an NJ Transit CM Unit electronic format consistent with Primavera Expedition, and was responsible for supervising all work, including the mechanical contractor.

New Jersey Schools Construction Corporation - Newark Regional Office Project Officer

Responsible for the overall management and coordination of construction operations for a state organization that specialized in the construction, renovation, and rehabilitation of public schools. He performed detailed analysis of construction plans and blueprints to formulate comprehensive project strategies, schedules, and milestones; reviewed project specifications to develop manpower requirements; monitored work performed by subcontractors and project management firms to make certain of compliance with quality standards and contract specifications; interfaced with architects, engineers, and municipal officials to coordinate project operations; and identified and resolved obstacles and problems to make certain of timely project

completion. He minimized expenses by developing project cost estimates to make sure that bids were accurate and reasonable, consistently delivering large-scale, multi-million dollar projects within established timeframes.

• *Science Park High School, Newark, NJ* - Managed the construction of two school facilities totaling 300,000 sf. Completed $75 million project in 30 months.

• *18th Avenue High School, Newark, NJ* - Managed all phases of new construction for a $62 million project.

• *Renovations* – Planned and directed 40+ multi-million dollar renovations, addition, and refurbishment of projects.

PANYNJ - Project Manager

Responsible for managing project operations from initial planning to final completion for various facilities controlled by the PANYNJ. He chaired weekly job progress meetings; scheduled, inspected, and monitored all phases of construction; and provided leadership and training to employees. Prepared estimates for field change orders.

NYCDDC, Division of Structures/Corrections, Riker's Island - Project Manager

Responsible for planning, coordinating, and performing all aspects of project management for the correctional facility at Riker's Island. Interfaced with project management team to coordinate large-scale new construction and refurbishing projects. Supervised and directed activities of outside contractors and project management personnel to make certain that project objectives were achieved, and prioritized and coordinated assignments to maximize productivity. Managed and performed all scheduling, logistical planning, change order authorization, budget analysis and preparation, and the approval of contract payment requisitions. Employed strong leadership ability to make certain that milestones and quality standards were attained.

Employment History:

2008 - Present	*Construction Inspector, KS Engineers, P.C.*
2002 - 2006	*Project Officer Newark Regional Office, State of New Jersey, School Construction Corporation*
2001 - 2002	*Project Manager, Division of Structures and Corrections, New York City Department of Design and Construction*
1998 - 2001	*Project Manager, Port Authority of New York & New Jersey*
1997 - 1998	*Mechanical Inspector, Parsons, Brinckerhoff/NYC School Construction Authority*
1996 - 1997	*Resident Engineer, Clough Harbor/NY State Division of Housing & Community Renewal*
1993 - 1994	*Assistant Project Manager, Thacker Engineering/NJ Turnpike Authority*
1989 - 1993	*Construction Inspector, Lockwood, Kessler & Bartlett*
1987 - 1988	*Bridge Inspector, Ammann & Whitney*
1982 - 1987	*Bridge Construction Inspector, Jackson & Tull*
1981 - 1982	*Structural Drafter, Parsons Brinckerhoff*

Osama Osman

Supplemental Field Staff

Firm
KS Engineers, P.C.

Education
Master of Science, Civil Engineering; City College of New York

Bachelor of Science, Civil Engineering; University of Khartoum

Professional Registration/ Certifications
Fundamentals of Engineering Certificate (E.I.T)

Mr. Osman has more than ten years of varied experience, including working for the NYCDEP as an Associate Engineer responsible for shop drawings, compliance with specifications, codes and environmental protection regulations for the inspection of tunnels, mining operation and shafts construction. He also has experience in cost estimating, steel works, concrete works, soil investigations, earthwork calculations, roadways, pavement and drainage works.

Project Experience

NYCT CM-1311, Construction Management for No. 7 Subway Line Extension Project - Senior Inspector

Performed inspection of this $1.5 billion project. The project includes providing construction management services that will extend the No. 7 Line westward under West 41st Street, and southward under Eleventh Avenue to the southerly terminus at West 25th Street. The extension provides a 7,100-foot-long, two-track railroad with two lay-up tracks for the storage of six trains. It also provides two new stations, one at West 41st Street and Tenth Avenue, and a two-track terminal station on Eleventh Avenue at West 34th Street. The project also includes working in the tunnel under the street level Site "A" that is located on the East Side at 11th Avenue between 25th and 26th streets. Work includes deck and concrete edge pans, safety lines, temporary lights, and tower stairs. This project includes coordination between the contractor and the MTACC Construction Manager.

New York City Department of Environmental Protection - Associate Engineer

Responsible for the inspection of mining operation, shaft construction, and tunnel concrete lining. The water tunnel measurements are 12 feet, 7 inches, and shafts are 26 feet with a total of 9 shafts that are 500 feet deep. The first stage of this project is $1 billion and involves the location, shaft and Tunnel Boring Machine (TBM). The second stage is $675 million, and involves the location, shaft and TBM. Tasks included consulting plans, specifications, and shop drawings. Responsibilities included inspection of works compliance with specifications, codes and environmental protection regulations, and making certain of compliance with permit requirements.

Goldreich Engineering, P.C. - Structural Engineer

Provided design and consulting for low-rise buildings under the supervision of a licensed engineer.

Civil Aviation Authority - Civil Engineer

Provided design, and supervising the execution of projects for cost estimation, steel works, reinforced concrete works, soil investigations, earthwork calculations, soil stabilization, roadways, pavement and drainage works.

Employment History:

2008 - Present	*Construction Inspector, KS Engineers, P.C.*
2004 - 2008	*Associate Engineer, NYC Department of Environmental Protection*
2006 - 2007	*Structural Engineer, Gold Reich Engineering, P.C.*
1998 - 2000	*Civil Engineer, Civil Aviation Authority*

Eric Gratson

Supplemental Field Staff

Mr. Gratson has over 20 years of experience as a resident and design engineer for civil engineering, environmental and geophysical projects. He has directed and managed projects relative to construction and renovation of transportation facilities, major transportation design and construction projects, and other projects for industrial and private clients throughout New Jersey and New York. His expertise includes hazardous materials surveys, development of construction documents, environmental construction management and oversight for conventional construction projects and environmental remediation projects, construction quality assurance, and project management.

Project Experience

Metro-North Railroad, Harmon Shop Replacement, Phase 1 and 2 Contract, New York - Lead Environmental Engineer

Led this $300 million railroad yard renovation project in Croton, NY. Phase 1 construction included the reconfiguration of existing railroad maintenance tracks, more than 25 miles of new utility duct banks, new above-ground fuel tanks and dispensing equipment, new fuel pads, upgrades to existing electrical substations, and modifications to existing groundwater treatment systems. Phase 2 included installation and modification of the employee parking lot; replacement of the maintenance-of-way storage facility; construction of a new communications building; addition/modification to the Material Distribution Center; construction of entrance booth and gate; relocation of tie operations; installation of oil/water separators, monitoring well relocations, installation of new roadway network; demolition of buildings, tracks, track ties, third rail, traction power, communications and signals; removal of a 200,000-gallon fuel tank; and relocation/installation of underground utilities. Mr. Gratson was responsible for overseeing that all construction procedures were conducted in accordance with federal, state, and local environmental regulations. He reviewed contractor submittals, attended project construction meetings, implemented the project environmental oversight plan in the field, and managed other environmental field personnel.

Metro-North Railroad, Harmon Shop Replacement, Phase 2 Contract, Asbestos and Lead-Based Paint Survey - Asbestos and Lead Inspector

Performed asbestos and lead-based paint survey of 10 structures within Metro-North Railroad's Croton-Harmon Yard in Croton, NY. The purpose of the survey was to identify suspect asbestos containing materials and lead-based paint expected to be impacted during the proposed renovation or demolition of the structures as part of the Phase II improvements for the MNR Croton-Harmon facility.

Firm

Matrix New World Engineering

Education

BS, Engineering Management, Minor in Physics; Wilkes University

Professional Registrations and Certifications

40-hour OSHA 1910.210 HAZWOPER Health and Safety Training and Annual Refresher

NY State/EPA Asbestos Inspector and Management Planner

NY State/ EPA Asbestos Supervisor

NY State/EPA Project Monitor Upgrade

NY State/EPA Asbestos Project Designer

USEPA/NY State Lead Inspector/ Risk Assessor

NJDEP Licensed N-2 Wastewater Treatment Operator

NJDEP Licensed Subsurface Evaluator

NJ Transit, Meadows Maintenance Complex, Asbestos and Lead Paint Survey - Inspector and Field Manager

Responsible for the performance of asbestos and lead-based paint surveys which targeted areas of the facility in Kearny, NJ to be impacted as part of planned expansion activities.

Metropolitan Transportation Authority/Metro-North Railroad, Grand Central Terminal Exterior Renovation - Project Manager

Managed the repair and restoration of the exterior façade of Grand Central Terminal. The scope of the repairs was separated into two design packages. Mr. Gratson conducted a hazardous materials investigation and testing of materials which may be impacted during rehabilitation of the exterior of Grand Central Terminal. He was responsible for interpreting the results of the investigations and preparing construction specifications and drawings for the handling of asbestos-containing materials and lead-based paint.

New Jersey Transit, Penn Station, Asbestos and Lead Investigation - Project Manager

Responsible for conducting a comprehensive asbestos-containing material and lead-based paint survey throughout the passenger platforms and parking decks at New Jersey Transit's Penn Station facility in Newark, NJ. Mr. Gratson directed field inspection personnel and prepared a detailed summary report of the data and inspection results. He also prepared abatement specifications and drawings for the removal of ACM and LBP as part of the construction documents package.

New Jersey Transit, Southern New Jersey Light Rail Transit System - Environmental Engineer

Assisted in managing environmental compliance issues related to the ongoing design review and construction. Mr. Gratson's specific responsibilities included reviewing design drawings and specifications for compliance with applicable regulations and project permits; conducting field visits to determine if construction procedures were in compliance with environmental regulations, permits, memoranda of agreement and site-specific work plans; conducting remedial investigations and site assessments to facilitate property acquisitions; acting as a liaison between the owner and designer/contractor to manage the remediation of known contaminated sites to achieve acceptable federal, state, and local clean-up standards while making certain that the construction schedule was not impacted; and acting as a representative to the owner for public or private inquiries regarding the impact of the construction on the environment.

Employment History:

2000 - Present Project Manager, Matrix New World Engineering, Inc.
1995 - 2000 Project Engineer, Matrix New World Engineering, Inc.
1994 - 1995 Environmental Scientist, Louis Berger & Associates, Inc.
1991 - 1994 Environmental Scientist, GZA GeoEnvironmental, Inc.
1990 - 1991 Environmental Scientist, Environmental Science & Engineering

Professional Registrations and Certifications (Cont'd)

NJDEP Licensed Subsurface Evaluator

NJDEP Cleanup Star Program

NJDOH Certified Lead Inspector/ Risk Assessor

Certified Cost Estimator with the NJ Dept. of Treasury, Division of Property Management and Construction

Certified GSSI SIR II Ground Penetrating Radar Operator, GSSI

RMD LPA-1 Lead Paint Inspection System

New Jersey Asbestos Safety Technician, UMDNJ

Joseph F. North

Task Leader - Plan Coordination

Firm
STV

Education
Master of Public Administration; Fairleigh Dickinson University

Bachelor of Arts; Public Administration Kean University

Memberships
Rail Transit Standards Operations Sub-Committee, American Public Transportation Association (APTA)

Committee on Light Rail Transit, Transportation Resource Board

Mr. North is a former senior operations manager with more than 30 years of operations and maintenance experience in light rail, commuter rail, bus operations and paratransit systems. He has approximately 15 years of experience in developing track outage plans to support both large capital programs and state-of-good-repair maintenance programs. His most recent track outage programs have supported multi-million dollar extensions of the Hudson Bergen Light Rail and the Newark City Subway, as well as simultaneous track outages to support state-of-good-repair maintenance programs for track replacement, signal upgrades, bridge repairs, and station platform rehabilitation projects.

Project Experience

New Jersey Transit Light Rail Operations - Former General Manager

Mr. North had overall responsibility for light rail operations at NJ Transit. He managed two private-sector DBOM consortiums on the Hudson-Bergen and River LINE light rail systems and the Newark City Subway. The three LRT systems comprise a network of 92 light rail vehicles, 59 stations, and 61 track miles. The total annual operating budget was approximately $170 million. Specific track outage experience included:

- Hudson-Bergen Light Rail - Minimum Operating Segment 2 (MOS2) - was a $1.2 billion extension of the Hudson Bergen system from Hoboken to North Bergen (the construction elements of the project totaled $554 million). The MOS-2 project was built in phases with three distinct operating segments necessitating three separate outage plans. Each outage plan was supported by the development of specific operating plans and public timetables, single-track passenger operations, and occasional substitute busing programs to increase the productive work times of the outages. These outages typically required nightly de-energizing and reenergizing support, flagging, operators and vehicles for testing and commissioning purposes.
- Newark City Subway Broad Street Extension - opened in July 2006 with a construction cost of approximately $250 million. A number of capital project-related outages and state-of-good-repair outages had to be combined to maximize the limited staffing and equipment resources of the Newark City Subway. Capital program-related outages were necessary to integrate the new extension into existing tunnel segments, and required extended periods of electric traction support (nightly de-energizing and re-energizing of the catenary system), flagging for multiple contractors, cut-in and cut-over of signal systems by Newark City Subway personnel, logistical support to contractors for equipment staging areas and assistance in transporting material and equipment to work zones, service planning changes to the public timetable to support single-track light rail operations and to increase the nightly work window for contractors, periodic substitute bus service,

coordination with public information units, coordination with external stakeholders (e.g., fire, police, utilities, city officials in traffic and engineering units) and the provision of operators and light rail equipment for integrated testing purposes and safety certification and verification purposes.

- River LINE Signal Improvements between Camden and Pennsauken - a $1.3 million signal improvement project on the River LINE completed in May 2007. The signal improvements were part of an innovative Federal Railroad Administration (FRA) approved plan to "share" 3.5 miles of track with lightweight diesel passenger vehicles and heavier FRA-compliant freight trains. The outages necessary to support this one-year project were primarily related to trenching, cabling, foundations, signal installations, signal cut-in, testing and commissioning. Careful coordination with Conrail was necessary to avoid any adverse impacts to their operations during their nightly eight-hour freight operating window.

Santa Clara VTA Rail Management Review - Lead Operations Consultant

Conducted a review of rail-management practices and procedures for the Santa Clara Valley Transportation Authority (VTA) and recommended changes to the light rail rule book, standard operating procedures, emergency notification, and incident response procedures to achieve a level of performance consistent with industry best practices.

San Francisco Municipal Railway Service Delivery Project - Lead Operations Consultant

Part of a joint consultant-agency team responsible for implementing service improvement initiatives on the San Francisco Municipal Railway. The project scope included improvements to operations, maintenance, vehicle reliability, systems integration, training and public information.

Employment History:

2003 - 2009	*General Manager, Light Rail Operations & Contracted Services, New Jersey Transit*
1996 - 2003	*Former Principal, Booz Allen Hamilton*
1996 - 10/96	*Former Chief Transportation Officer, Department of Buses, New York City Transit*
1994 - 1996	*Former Division Director, MetroLink Light Rail Operations, Bi-State Development Agency*
1976 - 1994	*Superintendant/Manager, New Jersey Transit*
1992 - 1994	*Former Acting Assistant General Manager, Rail Operations*
1990 - 1992	*Former Superintendent, Rail Operations*
1989 - 1990	*Former Superintendent, Newark City Subway*
1987 - 1989	*Former Assistant to the General Manager, Bus Operations*
1976 - 1987	*Numerous Frontline Positions*

William O. Reininger Jr., P.E.

Plan Coordinator

Firm
STV

Education
Bachelor of Science, Civil Engineering; Drexel University

Professional Registration
Professional Engineer: New Jersey

Memberships
American Railway Engineering and Maintenance-of-Way Association (AREMA)

American Society of Civil Engineers (ASCE)

Mr. Reininger has more than 30 years of experience in design, construction management, and construction inspection for transit and transportation facilities projects. His experience includes rail and bus projects for NJ Transit, Amtrak, and other public agencies. Prior to joining STV, he served as Senior Director for Amtrak special construction projects. He has successfully managed several projects for new and rehabilitated rail stations and terminal buildings, rail and bus maintenance facilities, multi-span steel, concrete, railroad, and highway bridges, highways, aerial rapid transit systems, freight systems, movable bridges, and tunnel ventilation and control systems.

Project Experience

MTA Capital Construction/LIRR East Side Access - Harold Structures Manager

Provided oversight of the design of four Harold Area civil and structural construction packages for the project to provide the Long Island Rail Road (LIRR) with access to Manhattan's East Side. The $340 million construction package includes Queens bored tunnel approach structures, three bridges, cut-and-cover tunnels, extensive earthwork, retaining structures, and utility relocations under and through the LIRR Main Line Harold Interlocking. Mr. Reininger oversaw the development and coordination of construction and operational staging while maintaining LIRR and Amtrak traffic.

Amtrak Special Construction Projects - Former Senior Director

Managed and administrated a new capital improvement group for over $470 million in construction improvements to Amtrak's Penn Station in Manhattan. Mr. Reininger participated in conceptual planning discussions with Amtrak engineers and police, and the New York Fire Department (FDNY), for the upgrade of the six New York City tunnels and the emergency egress fan buildings for both improved emergency responder access and additional security enhancements at the portals. Mr. Reininger oversaw other projects, including the reconstruction of three tunnel ventilation shafts, structural rehabilitation in the replacement of tunnel lighting, and installation of new electrical/mechanical supervisory control systems. Mr. Reininger also implemented a new project control and documentation system. He used Primavera Project Planner (P3) and Expedition to manage construction scheduling, controls, and documentation.

SEPTA Market Street Elevated Train Guideway Replacement - Program Director

Directed all aspects of the $350 million replacement of 12,000 linear feet of 2-track elevated guideways in Philadelphia, PA, including the total reconstruction of six stations and a transition to at-grade tracks. Five of the stations were elevated and one

was at-grade. Mr. Reininger devised workable staging to allow the replacement of the guideway with only weekend service interruptions, making it possible to replace this 90-year-old system incrementally. He also oversaw the development of constructability scenarios to maintain service throughout the project, accommodating an average weekday capacity of 300,000 commuters. Mr. Reininger directed outreach programs in West Philadelphia to address community concerns regarding the impacts of construction.

NYCEDC Cross Harbor Freight Movement EIS - Rail Clearances Engineer

Managed engineering tasks associated with determining and adjusting clearances on an existing rail corridor across Brooklyn into Queens, NY. The effort was part of preliminary preparations for the Environmental Impact Statement (EIS) to determine the feasibility of constructing a new freight-rail tunnel across the upper part of New York Harbor, either from Staten Island, NY, or from Jersey City, NJ, to Brooklyn, NY.

SEPTA Cresson Street Viaduct Rehabilitation - Project Manager

Managed extensive structural rehabilitation of a 1,700-foot ballasted-deck, 2-track steel railroad viaduct in Manayunk, PA. Mr. Reininger oversaw steel strengthening repairs, replacement of bearings, installation of a new drainage system, extensive concrete and deck repairs, and replacement of deck waterproofing. To enable staged construction and maintenance of single-track operations over the viaduct, Mr. Reininger managed the installation of temporary trackwork and extensive coordination with railroad operations.

SEPTA Bridge 9.49 Replacement - Project Manager

Oversaw the roll-in replacement design of this mainline bridge over S.R. 611 in Elkins Park, PA. Mr. Reininger managed the intricate construction staging involved in maintaining rail and highway traffic so that the bridge could be completely replaced with only four weekend service interruptions. His efforts were recognized when the project received the PennDOT Design Excellence Award for Transit Structures.

NJ Transit In-Depth Railroad Bridge Inspection and Rating Program – Program Manager

Oversaw the in-depth inspection and capacity rating of 96 bridges throughout New Jersey. Mr. Reininger managed the preliminary engineering, recommendations, and cost estimates for the rehabilitation of the bridges. Mr. Reininger also contributed to the development of a system-wide bridge management program to implement a methodology for priorization of structural maintenance and capital rehabilitation.

Employment History:

1998 - 2001	*Senior Director - Project Construction, Amtrak*
1979 - 1998	*Associate Vice President, Frederick R. Harris, Inc.*
1976 - 1979	*Structural Engineer II, National Railroad Passenger Corporation, Amtrak*
1975 - 1976	*Bridge Engineer, Reading Railroad Co.*

Armen K. Boyajian, P.E.

Task Leader - Scheduling

Firm
STV

Education
Master of Business Administration, Industrial Management for Engineers; Bernard M. Baruch College, CUNY

Bachelor of Civil Engineering; City College of New York

Professional Registration
Professional Engineer: New York

Training/ Certifications
Tunnel Design and Construction; American Society of Civil Engineers (ASCE) Continuing Education

Roadway Worker Procedures; Metro-North Railroad

Roadway Protection Training; Long Island Rail Road

Mr. Boyajian is a hands-on construction staging specialist and project controls manager with more than 40 years of experience in project controls and CPM scheduling for major transportation projects in the New York City area and nationwide. For numerous transportation facility projects. Mr. Boyajian has developed preconstruction strategies to enhance project schedules while maintaining system and facility operations, with minimum disruptions to service. He is also experienced in managing force account schedules for transportation clients.

Project Experience

PANYNJ WTC Vehicular Security Center and Tour Bus Parking Facility - Senior Scheduler/Logistics and Constructability Review

Working with the design team to develop the baseline schedule for design document production for various construction packages for a vehicular security center and tour bus parking facility at the World Trade Center (WTC) site in Lower Manhattan. Mr. Boyajian is responsible for monitoring the design schedule on a monthly basis, reflecting the progress of work to achieve the targeted delivery dates for each contract package. Part of the constructability effort includes detailed analyses of each contract to develop the work strategy and normal duration for completion of the scope of work, which helps reveal special provision considerations for inclusion in the contract administration.

WMATA Dulles Corridor Metrorail Link Extension - Schedule Analyst

Evaluating the construction manager's implementation schedule during the preconstruction phase for the $2.5 billion, 11.6-mile extension of the Dulles Metrorail Corridor at Washington Dulles International Airport in Dulles, VA. Mr. Boyajian is recommending reallocation of labor contingency costs for critical path work tasks in one of the most traffic-congested suburbs of Washington, D.C. The scope of work will involve construction of ballasted, direct fixation, on-grade, and elevated tracks, bridges, tunnels, five stations, and a traction power system.

CATS South Corridor Light Rail Project - Senior Scheduler

Developed the master schedule for the development of this first of five routes in this light rail transit (LRT) program to improve approximately nine miles of roadway and to add 11 miles of light rail in the Charlotte, NC, metropolitan area. The project includes 15 stations, procurement of light rail vehicles (LRVs), and construction of a storage yard and maintenance facility. The new LRT line is projected to cost approximately $371 million, including real estate acquisition, and will provide and higher-capacity transit service along this corridor.

NJ Transit Meadows Maintenance Complex (MMC) Expansion - Senior Project Manager

Analyzed the project scope and scheduled the work flow for the $87 million expansion of the rail maintenance complex in Kearny, NJ. Mr. Boyajian developed the preconstruction work plan, and reviewed site restrictions and logistics with the owner. He helped make sure that NJ Transit's operations were maintained and disruptions were minimized. Mr. Boyajian managed force account schedules for the client, and developed contractor bidding procedures.

NJ Transit Penn Station East End Concourse Construction - Construction Staging/Scheduler

Developed a detailed staging plan for the reframing of the east end of Penn Station to accommodate NJ Transit's ticket counters, waiting rooms, and platform access. He interacted extensively with design, scheduling, and constructability personnel. Mr. Boyajian oversaw the use of construction screens to separate pedestrian flow from construction, and gave special consideration in his staging plans to support systems, including air conditioning, fire alarm, sprinkler, and electrical services.

Metro-North Harmon Yard Redevelopment Phases II and III - Senior Scheduler

Developed and maintained design schedules for the $30 million Phase II and $200 million Phase III rehabilitation of Harmon Shop in Croton, NY. Mr. Boyajian analyzed the work scope and established phasing for the project. He performed constructability reviews and prepared procedures for coordination. Mr. Boyajian also developed a preconstruction schedule evaluation. All work was performed in an active 24/7 rail yard environment.

LIRR Richmond Hill/Morris Park and Advance Yard Improvements - Scheduler, Construction Phasing/Staging

Developed a phasing and staging strategy for construction of a new, $25 million shop and renovations to existing Long Island Rail Road (LIRR) facilities. Mr. Boyajian was involved during the 30% design phase to ascertain contract duration, construction, staging, and sequencing based on site conditions and yard operations. His efforts resulted in a construction staging program without interruption of ongoing shop activities.

Employment History:

1997 - 2000	*Director of Scheduling, New York City School Construction Authority*
1994 - 1997	*Construction Consultant, William G. Baum, Inc.*
1992 - 1993	*Director of Scheduling, Humphreys and Harding, Inc.*
1962 - 1964	*Construction Engineer/Estimator, MacLean Grove and Company*
1961 - 1962	*Surveyor/Resident Engineer/Contract Administrator,*
1958 - 1959	*New York City Parks, Recreation, and Cultural Affairs Administration Construction Division*
1959 - 1961	*Instructor/Contract Administrator - Design Engineer, U.S. Army Corps of Engineers*

Sadia Janjua, LEED®AP

Scheduler

Ms. Janjua is a project controls specialist with particular expertise in preparing schedules and cost analyses for a variety of project types. She is skilled in the use of Primavera P6 Project Management and Primavera P3 Project Planner. She is experienced in developing and updating baseline project schedules, performing trend and critical path analyses, and preparing cost estimates and audits. Ms. Janjua has experience in engineering design, construction management, financial and resource planning, and dispute resolution for numerous agencies.

Project Experience

DASNY Bronx Family Courthouse Renovation - Scheduler

Developing and maintaining the project schedule to provide timely and accurate schedule information for the work being done at this justice building in the Bronx, NY. Ms. Janjua is reporting on the remaining work in the project schedule, forecasting impacts, assisting with managing resources, and identifying and validating schedule corrective actions. She is assisting project management with contract compliance and interpreting specifications to identify schedule requirements and complexity. Ms. Janjua is performing multi-discipline coordination with project management to facilitate schedule development and coordinating with the client to facilitate schedule development and compliance.

Kaiser Hospital Oakland Medical Office Building Phase 1 - Project Controls Specialist

Developed baseline schedules and performed monthly updates for this $450 million, 5-story, 430,000-sf, medical office building in Oakland, CA. The new facility is being constructed on a fast-track schedule in three phases. Ms. Janjua implemented the work breakdown structure (WBS), work item lists, and CPM timetable, and maintained the preliminary master schedule throughout the plan and schedule development process. In addition, she created resource and cost analysis reports.

Hillsborough Unified School District 2007 CIP - Project Controls Specialist

Assisted with the integration of the program cost, schedule, and data to assess any risk to the $449 million capital improvement (CIP) program, which included 250 modernization, temporary facility, and new school construction projects for Hillsborough, CA. The summer phase of the project, which received an award from the city of Hillsborough, consisted of a 4-school renovation that was completed 3 weeks ahead of schedule and $2 million under budget.

City of San Mateo College of San Mateo Science Building 36 - Project Controls Specialist/Scheduler

Maintained the baseline schedule and performed monthly updates for this new, $19.5 million, 3-story building in San Mateo, CA. Ms. Janjua supported the team

Firm
STV

Education
Bachelor of Science, Industrial Engineering and Operations Research; University of California, Berkeley

Certifications
Leadership in Energy and Environmental Design (LEED® AP); U.S. Green Building Council (USGBC)

Memberships
Board Member, D.C. Berkeley Engineering Alumni Society

National Association of Women in Construction, San Francisco Chapter #19

Project Management Institute

Computer Skills
Primavera P3, P6 Project Management, SureTrak, SAP, i2, MS Project

with project and resource planning, which included coordinating project staffing levels. She also monitored positive and negative trends which affected the project schedule and reported it to the project director.

University of California Berkeley C.V. Starr East Asian Library - Project Controls Specialist/Scheduler

Developed bid and baseline schedules for this new, $42 million, 67,000-sf, 4-story library. Ms. Janjua performed monthly updates, verified the CPM, and identified schedule risks.

San Francisco Public Utilities Commission - Former Regulatory Specialist/Financial Planner

Made certain that all operations, planning, and development projects of the department complied with federal, state, and local laws, regulations, and requirements. Mr. Janjua maintained a working knowledge of the laws and regulations promulgated by various federal, state and local environmental and regulatory agencies. She implemented and assisted in developing permit processing and inspection practices and procedures. Ms. Janjua developed and administered capital improvement projects plans, developed and maintained effective working relationships with staff and regulatory agencies, and determined the financial system required to effectively manage the activities of all divisions and bureaus of the Commission such as budget preparations, long-range financial plans, and operating forecasts.

San Francisco Public Utilities Commission - Former Engineering Consultant

Responsible for the procurement of goods and services associated with the construction of water and wastewater treatment plants. Ms. Janjua developed a new source of supply for fabricated water pipe and strategic relationships with key suppliers for a water purification system project at a large water treatment plant.

Employment History:

2006 - 2008	*Project Controls Engineer/Scheduling Engineer, McCarthy Building Companies*
2005 - 2006	*Project Controls/Scheduling Engineer, Bechtel Corporation*
6/05 - 8/05	*Regulatory Specialist/Financial Planner, San Francisco Public Utilities Commission*
1/05 - 8/05	*Engineering Consultant, San Francisco Public Utilities Commission*
2003 - 2004	*Project Operations Intern, Petrofac International*
5/02 - 11/02	*Engineering Consultant, CYCLOPS*

Hany Estefanos

Scheduler

Mr. Estefanos is a scheduler with experience providing planning and scheduling for large-scale civil works and facilities construction projects. He has been responsible for creating and updating master schedules, providing resource planning and allocation, and preparing work breakdown structures. Mr. Estefanos is skilled in the use of project management support software, including Primavera P6 Project Management, Primavera P3 Project Planner, Primavera Construction Manager, and Microsoft Project.

Firm
STV

Education
Bachelor of Science, Mechanical Power Engineering; Alexandria University Faculty of Engineering, Egypt

Training/ Certifications
Primavera P6 Concepts; Petrojet Co.

Radiographic Testing Level I Certification; Petrojet Co.

Ameriya Petroleum Co. Processes Training

Computer Skills
Primavera (P6) Project Management, Microsoft Project, Primavera Project Planner (P3), Primavera Expedition, AutoCAD, Matlab

Project Experience

NYCSCA Mentor Program CM - Scheduler

Responsible for reviewing contractors' schedules to make sure they conform with contract specifications as part of this program to manage the performance of minority- and woman-owned contractors and mentor them in effective work and business practices. The goal of this program is to train and graduate mentor contractors so that they will be able to successfully transition to the larger competitive construction environment, and obtain financial resources and bonding, while strategically planning for unionization.

Petrojet Co. - Planning and Scheduling Engineer

Provided scheduling for more than $26 million in petroleum construction projects in Egypt, all of which were completed on time and under budget. Mr. Estefanos was responsible for determining detail tasks; establishing time limits using fixed duration, fixed work, and fixed units; establishing constraints and deadlines; setting up dependencies; and providing resource planning and allocation. He resolved scheduling and resource issues, tracked the progress of projects, imported and exported project information in Excel and Word, provided backward scheduling for long lead items and CPM scheduling, and prepared work breakdown structures. He also prepared reports, performed project analysis, and developed and maintained detailed Primavera schedules for tracking and resources. In addition, Mr. Estefanos implemented monthly schedule updates, including narratives on work progress.

Consolidated Edison - Scheduler

Responsible for creating and updating master schedules for load relief, feeder relief, and substation projects. Mr. Estefanos updated schedules using Microsoft Project, imported and exported projects into Excel and Adobe Acrobat, and logged layouts into the PASS System and exported to Microsoft Project.

NYCSCA P.S. 99X Conversion - Field Clerk

Logged submittals using Primavera Expedition, prepared documentation, and developed daily reports using Microsoft Access for the $21 million conversion of this 3-story school into two separate schools in the Bronx, NY.

Khalda-Apache Petroleum Co. Southern Gas Pipeline - Planning and Scheduling Engineer

Developed and maintained schedules for the $35 million construction of 218 kilometers of 18-inch-diameter gas pipeline in the Western Desert of Egypt.

South Dabba Petroleum Co. South Dabba Production Facility - Planning and Scheduling Engineer

Provided scheduling and resource planning and allocation for the mechanical, electrical, and civil work associated with the construction of a new, $30 million production facility in the Western Desert of Egypt.

Gasco Petroleum Co. Bourg El Arab Gas Pipelines - Planning and Scheduling Engineer

Performed planning and scheduling for the $10 million construction of 20 kilometers of 24-inch gas pipeline, and 10 kilometers of 12-inch gas pipeline in Bourg El Arab, Alexandria, Egypt.

Khalda-Apache Petroleum Co. Service Agreement - Planning and Scheduling Engineer

Responsible for planning and scheduling for various civil, mechanical, electrical, and pipeline projects in the Western Desert, Matrouh, Egypt.

Ameriya Petroleum Co. Wastewater Treatment Plant - Planning and Scheduling Engineer

Provided scheduling and planning for the mechanical and civil work associated with the construction of this $4 million wastewater treatment plant in Ameriya near Alexandria, Egypt.

SIDIKERIER Petrochemicals Co. Ethylene Factory Pipeline Network - Quality Control Engineer

Provided quality control for the construction of an underground and rack pipeline network for a new ethylene factory in Ameriya near Alexandria, Egypt.

Employment History:

2008 - Present Scheduler, Consolidated Edison (Con Ed)
2007 - 2008 Clerk, WDF, Inc.
2001 - 2005 Planning & Scheduling Engineer, Petrojet Co.
1999 - 2000 Quality Control Engineer, Petrojet Co.

Carlos Sanchez, PE

Scheduler

Firm
Paco Group

Education
Construction Management Diploma; New York University

Bachelor of Science, Civil Engineering; Central East University

Professional Registration
New York

Memberships
ASCE
AACEI

Mr. Sanchez is a licensed professional engineer with over 20 years of experience providing scheduling and cost control services for a broad range of transportation-related planning and construction projects. His experience includes rail, aviation, heavy civil, universities, hospitals, and public housing. Mr. Sanchez has expertise performing all facets of scheduling, cost control, cost estimating, project controls, contract administration, contract change management, and claims management. His experience encompasses all project phases: engineering design, procurement, and construction. Additional skills include performing strategic long-range manpower planning, budget forecasting, and expert-level proficiency in Primavera P3 and P6. Mr. Sanchez worked on complex FTA funded projects developing resource loaded CPM schedules comprising several thousand activities, with multiple project/contract interfaces with agency-wide projects with values in excess of $2 billion.

Project Experience

Various Projects - PACO Group, Inc., New York
Assistant Vice President, Technical Services

Responsible for managing the PACO Group Technical Services Division and all related staff, work product, and projects assigned to Technical Services. He is the practice leader for Project Controls (including estimating, scheduling, and cost control), and manages all temporary project assignments on an as-needed basis throughout the United States and abroad. Mr. Sanchez provides estimating services that include reviewing owner-developed preliminary and bid cost estimate for heavy and civil construction; including airports, stadiums, roadways, and parks and recreation, reviewing proposals from contractors and making sure of compliance with contract documents; reviewing budgets, performing cost impact analysis; reviewing and performing independent cost estimates for change orders, and developing detailed take-off and cost estimates for new and rehabilitation projects.

PANYNJ JFK AirTrain - Scheduler

The Airport Access Program is an 8.4-mile people mover system, linking the airport's nine passenger terminals to one another, to rental car areas and long-term and employee parking, and to the Long Island Rail Road and New York City subway system. Mr. Sanchez provided CPM scheduling services and analyzed schedule updates to determine whether the downstream impact of any delay affected a milestone by more than ten days. A similar analysis was used to pinpoint the source of any negative float. He presented recommendations in a combination of narrative reports and Level I, II, and III schedules, where the greatest level of detail was used to illustrate where change was needed, and the summary level of detail was used to indicate how the overall schedule was impacted.

Hampton Roads Transit (HRT) Norfolk Light Rail Transit Project - Project Controls

Mr. Sanchez provides his expertise in configuration management, planning, scheduling, and cost management, providing both a detailed and summary documentation that satisfies the needs of the funding authorities, as well as planning and procuring authorities. He maintains and manages the Project Execution Plan deliverables needed to obtain funding from the FTA. He also uses his extensive background in project controls to help HRT train its staff in implementing and maintaining an agency-wide document control system. Working with the IT Department to improve and customize the (ccs.Net) system, he tailors reports and forms for the project, and develops efforts to implement change control.

NYCMTA Five-Year Capital Construction Program – Scheduler

The work was to complete renovation and rehabilitation of 50+ subway stations. The program included improving and adding new entrances on the northern side of the Times Square station complex in coordination with NYCDOT. Other work included improving ADA accessibility at 17 key stations, replacement of 25 escalators at four stations, and new passenger transfers at Bleecker Street in Manhattan and Jay Street in Brooklyn. As Senior Scheduler he prepared design and construction schedules for projects in the New York City Transit Authority's five-year Capital Construction Program. He reviewed schedules and reports prepared by General Contractors, and provided narrative-analysis of schedule reports.

NYSDOT Tappan Zee Bridge/I-287 - Cost Estimator

The Corridor extends 30 miles between the Village of Suffern in Rockland County and the Village of Port Chester in Westchester County. The counties are linked by the Tappan Zee Bridge (TZB) over the Hudson River. Transportation, environmental and cost criteria were developed in order to assist in making the transit mode decision. Mr. Sanchez developed the cost estimate for the six preliminary transportation modes alternatives analysis in the Draft Environmental Impact Statement.

Employment History:

2008 - Present	*PACO Group*
2008	*URS Corporation*
2007	*McKissack + McKissack*
2006	*URS Corporation*
1999 - 2005	*PACO Group*
1997 - 1999	*The LiRo Group*
1996 - 1997	*NCI, Inc.*
1994 - 1996	*Civil Engineer, Self-Employed*
1989 - 1994	*The City of New York*
1988 - 1999	*Construction Technologies, Inc.*

David Kirk, AIA, CCC, CCS, CVS, LEED®AP

Senior Cost Engineer - Task Leader

Mr. Kirk is a risk and value engineering manager with more than 40 years of experience in overseeing design, estimating, scheduling, value/risk analysis, and construction for large-scale transportation and other facility projects in the New York metropolitan area. He has extensive experience in capital program construction for major transportation facilities, including automated transit/rail systems and mass transit facilities. Prior to joining STV, Mr. Kirk served as the Senior Project Controls, Cost, and Schedule Specialist for a project management oversight consulting (PMOC) contract at the Federal Transit Administration (FTA)'s Lower Manhattan Recovery Office, which involved monitoring the transit and infrastructure aspects of the WTC site redevelopment, including the overall project design and construction plans, quality processes and procedures, project controls, and risk management. He has also provided PMOC services to the FTA for several other multi-billion dollar transit projects. In addition, Mr. Kirk brings experience from his 30-year career with the Port Authority of New York and New Jersey (PANYNJ), where he held positions of increasing leadership in planning, design, estimating, and construction, including his positions as Chief Estimator/Value Engineering Manager, Chief Contracts Engineer, Rail Planner, and Manager of Projects for Airports.

Project Experience

FTA New York Region II & Lower Manhattan Recovery Offices -PMO Senior Project Controls, Cost, and Schedule Specialist

Provided general project management, project controls, and risk assessment oversight to the FTA as part of a project management oversight consulting (PMOC) contract to monitor and perform risk assessment of major transit and infrastructure projects in New York City, including the overall project design and construction plans, quality processes and procedures, definition of the project CPM schedule, general project management, project controls, and risk assessment oversight and cost control. Responsible for cost/schedule project controls and risk assessment oversight as part of the team providing project management oversight (PMO) to the Federal Transit Administration (FTA) Lower Manhattan Recovery Office for:

- $2.87 billion World Trade Center (WTC) PATH Transportation Hub
- $550 million WTC Vehicular Security Center and Tour Bus Parking Facility
- $20 billion NYCT Second Avenue Subway Project
- $8.5 billion MTA/LIRR East Side Access Project
- $900 million NYCT Fulton Street Transportation Center
- $450 million NYCT South Ferry Terminal Station
- $871 million NYSDOT Route 9A Lower Manhattan Restoration Project

Firm
STV

Education
Master of Architecture, Architectural Design; Columbia University School of Architecture and Urban Design

Bachelor of Arts, Math and Physics; Columbia College

Professional Registrations
Registered Architect: New York

Certifications
Certified Cost Consultant

Certified Value Specialist

Certified Construction Specifier

American Institute of Architects (AIA)

Memberships
American Institute of Architects (AIA)

American Association of Cost Engineers (AACE) International

NJ Transit Broad Street Station Rehabilitation and Center Platform Installation Program - Value/Risk Analyst

Led a major value engineering effort and conducted a risk assessment review for the $200 million rehabilitation of NJ Transit's landmark Broad Street Station in Newark, NJ, and the complex construction of a passenger track underpass and new center platform on the NJ Transit Main Line. The project involved the phased construction of railroad bridges at a higher elevation over Martin Luther King, Jr. Boulevard and the construction of the new center platform under operating conditions.

WMATA Dulles Corridor Metrorail Link Extension - Chief Estimator

Prepared an independent cost estimate and risk assessment for the extension of the Washington Metro system to Dulles International Airport via Tyson Corners and the Dulles corridor median right-of-way. The project included park-and-ride/intermodal facilities, elevated/at-grade/below-grade rail structures, and complex phasing/staging while maintaining and protecting existing traffic operations.

WMATA New York Avenue Infill Station Risk Analysis - Chief CPM Scheduler and Estimator

Prepared an independent cost estimate and CPM schedule and led a value engineering/cost and schedule risk analysis effort for the $200 million construction of a new center or "infill" platform station at New York Avenue in Washington, D.C., on the WMATA Main Line contiguous to the Amtrak Northeast Corridor Main Line. The project involved complex and high-risk phasing and construction staging to build the "infill" station with no interruption of WMATA or Amtrak rail operations. The project was also constrained by existing landmark bridge structures at either end of the new station and difficult constructability issues.

MTA Capital Construction/LIRR East Side Access - Value/Risk Analyst

Conducted seven value engineering workshops for this $8.5 billion project to extend Long Island Rail Road (LIRR) service to Manhattan's East Side, terminating in Grand Central Terminal. The project is the largest single construction program ever undertaken by the MTA.

MTA Lower Manhattan Access Project - Chief Estimator

Prepared the conceptual cost estimates for five major alternatives for rail and transit access to Lower Manhattan, NY, via the Long Island Rail Road (LIRR), Metro-North, and New York City Transit (NYCT), as well as for 10 alternative transportation system management (TSM) initiatives. All of the alternatives alignments provided for tunneling under Manhattan and/or the East River from Brooklyn with rail terminal facilities in the Financial District. Alternative access designs ranged from $18.6 billion for the selected Second Avenue Subway to $30 billion for the other rail alternates.

Employment History:

2004 - 2008	*Carter & Burgess, Inc. (now Jacobs Carter Burgess)*
2002 - 2004	*FTA Project Management Oversight Consultant, Fluor Enterprises, Inc.*
1996 - 2002	*Vice President Technical Services, Paco Group, Inc.*
1965 - 1995	*Various Positions, The Port Authority of New York and New Jersey*
1961 - 1991	*Naval Office, U.S. Army*

Memberships (Cont'd)

Society of American Value Engineering (SAVE) International: President, Metropolitan New York Chapter President); Former National Director for Chapter Effectiveness; Former Northeast Region Director

Peter E. Federman, AIA, NCARB

Cost Engineer

Mr. Federman is a registered architect and professional estimator with over 30 years of experience on a variety of projects that span transportation, aviation, healthcare facilities, and infrastructure. Past estimating work includes civil/structural, architectural, FF&E, security, fire protection, plumbing, mechanical, and electrical. Mr. Federman has extensive experience supporting projects through preliminary engineering, design, and construction. He has also worked on commercial, government, and historic preservation projects as a project architect and construction administrator, providing constructability design reviews and other similar services.

Project Experience

Transit Experience, Various Projects - Estimator

Mr. Federman performed complex civil, structural, architectural, FF&E, security, fire protection, plumbing, mechanical, and electrical estimates on large-scale transportation projects, including subways, station renovations, heavy rail, transit centers, tunnels and infrastructure projects. Within each project estimate, products created and submitted included conceptual, detailed and final design, via collaboration with program and project managers, design teams, and department managers. He prepared outline specifications, describing scope of work, organizing estimating data, and reviewing estimates for accuracy and completeness. Additionally, Mr. Federman reviewed engineer estimates, conducted and coordinated bid-check estimates, and performed unit pricing and change-order estimates.

NYSDOT/NYSTA Tappan Zee Bridge Transportation Corridor - Cost Estimator

Provided cost estimates for various rail, bus and road options to update and improve travel modes between Rockland and Westchester counties. The New York State Thruway Authority, working in conjunction with the MTA and Metro-North Railroad, is working to alleviate congestion throughout the 30-mile corridor and address the structural needs of the 3.1-mile-long bridge.

NJ Transit Monmouth Ocean - Middlesex Rail Project - Cost Estimator

Performed assessment of transportation needs and identification of transportation solutions in Monmouth, Ocean and Middlesex counties in NJ. Mr. Federman provided an EIS estimate for a proposed new rail line including alignment, stations, yard and maintenance facilities.

Firm
Paco Group

Education
Master of Architecture, University of Pennsylvania; Bachelors, University of Michigan

Professional Registration
New York and California

Certificate
NCARB

Memberships
Association for the Advancement of Cost Engineering (AACE) International

American Institute of Architects (AIA)

American Arbitration Association

Professional Activities
The Cooper Union for the Advancement of Science and Art Lecturer

Pratt Institute, Associate Professor

MTA/NYCT Manhattan East Side Access (MESA) Project, Second Avenue Subway - Cost Estimator

The construction includes seven miles of tunnels, over 3.5 route miles, a new Sunnyside, Queens station, a rail yard at Sunnyside Yard, 50,000 feet of new track, and five new entrances at Grand Central Terminal. Mr. Federman was responsible for conceptual estimates for new subway line.

PANY&NJ JFK International Airport Access Program - Cost Estimator

Prepared budget estimate for airport transit options and prepared budget estimate for rail access from Manhattan to JFK Airport.

PANY&NJ - LaGuardia International Airport Rail Rapid Transit Access - Cost Estimator

Prepared budget estimate for rail access from Manhattan to La Guardia Airport. Additionally, Mr. Federman provided estimating services on the following projects: MTA, Metro-North Railroad – Mount Vernon Transportation Center; MTA, New York City Transit – 161st Street Station; MTA, Long Island Rail Road – Jamaica Station; MTA, New York City Transit – Main Street Station; MTA, New York City Transit – Manhattan East Side Transit Alternatives; and NJ Transit – Secaucus Transfer Station.

Recent Port Authority of NY & NJ Experience

Estimator for the following projects:

PANY&NJ Bayonne Bridge, Outerbridge Crossing Bridge, Palisades Interstate Parkway, George Washington Bridge, Holland Tunnel, Lincoln Tunnel

Provided cost estimating services for sitework, interior alterations and plaza ceiling replacement, and cost estimating for the installation of electronic toll collection.

PANY&NJ Newark Airport

Estimating services for pilot project involving installation of automatic doors at Newark Airport parking garage.

PANY&NJ Outerbridge Crossing

Cost estimating for the upgrade and installation of both toll booths and enclosures for HVAC.

PANY&NJ JFK International Airport

Intersection fillet study.

PANY&NJ George Washington Bridge

Fort Lee site preparation for facility improvements.

PANY&NJ Elizabeth Marine Terminal

Express Rail Administration Building.

Employment History:

1996 - Present PACO Group
1996 - Present Pete & Company
1983 - 1996 Federman Design & Construction Consulting, Inc.
1980 - 1983 Kaplan, McLaughlin & Diaz
1978 - 1980 Clark, Stromquist & Sandstrom

Sergey Kogan, EIT

Cost Engineer

Firm
Paco Group

Education
Master of Science, Civil Engineering; Israeli Institute of Technology (Technion)

Bachelor of Science, Civil Engineering; Institute of Civil Engineering

Training
Primavera P6 Certificate

Heavy Construction Estimating Software Certificate

Mr. Kogan has over 20 years of cost estimating experience in the transportation and civil engineering disciplines. He has a working knowledge of various Department of Transportation, federal, state and local regulations, regulatory compliance requirements, and regulatory permits. Software skills include HCS, Transyt7F, PASSER II, GuidSign, AutoTurn, Synchro 6, AutoCAD, MicroStation, WordPerfect, and Microsoft Office. Mr. Kogan's experience includes roles as a civil engineer with specific work in transportation planning, traffic engineering, and traffic signal system design.

Project Experience

NYCMTA Second Avenue Subway - Senior Estimator

Responsibilities on this project include updating quantities for 60% design estimates for the 96th and 86th Street stations; coordinating with the design group to resolve any issues and providing cost updates for Phase 1 estimates for the 72nd Street Station; collaborating with the design team to develop cost savings for different areas of the station; providing cost analysis of cost changes of the stations for client meetings; evaluating planned stations concept changes; developing bid unit cost prices for new items to be incorporated in the estimates; analysis and review of existing bid unit cost prices; and supporting schedule updates through constructability review, contributing to construction schedule improvements.

NJ Transit Traffic Impact Study, Proposed TransLoad Facility - Senior Transportation Engineer

Responsibilities included performing traffic impact studies, and developing improvement recommendations for traffic operation to mitigate adverse impacts for this project in Hudson County, NJ.

PANYNJ Newark International Airport Terminal B Modernization - Senior Transportation Engineer

Responsibilities included preparation of final construction documents. Subject matter included traffic signal, signing, striping, maintenance and protection of traffic design.

PANYNJ Various Terminals at JFK, LaGuardia and Newark Airports - Senior Transportation Engineer

Responsibilities included performing terminal frontage analysis and traffic circulation improvement, and determining proper location and design of different frontage elements.

PANYNJ JFK, American Airline Terminal Redevelopment - Senior Transportation Engineer

Responsible for performing traffic signal design for this project in Queens, NY.

PANYNJ Airport, Bridge, and Tunnel Traffic Surveys - Senior Transportation Engineer

Provided comprehensive traffic surveys for this project in New York, NY.

PANYNJ Jamaica/JFK Airport Access Study - Senior Transportation Engineer

Analyzed existing traffic operation and transportation system characteristics for proposed BRT routes for this project in New York, NY.

NYSDOT Cross Bronx Expressway Lighting Project - Senior Transportation Engineer

Prepared temporary and final sign design for this project in New York, NY.

NYSDOT Gowanus Expressway Viaduct Final Design Phase & Bronx Whitestone Bridge (BW-82)- Senior Transportation Engineer

Developed Third Avenue intersections signal modification plans in accordance with NYCDOT and NYSDOT current standards for the Gowanus Expressway, as well as final sign design for replacement of the roadway deck of the Bronx Whitestone Bridge.

New Jersey Transit Various Projects - Project Traffic Engineer

Responsibilities included preparation of final construction documents including traffic signal, signing and striping and lighting design for various projects, preparation of detailed budget estimates prior to bidding and reviewing contractor bids for accuracy of scope; representing and coordinating meetings and supervising the overall coordination process; coordinating and preparing maintenance and protection of traffic scheme, temporary traffic signal design, and estimated quantities required; conducting traffic control and staging design and utility coordination; coordinating preparation of specifications and conducting shop-drawings review; and conducting feasibility studies and preparing final traffic impact reports.

Employment History:

2007 - Present PACO Group
2005 - 2007 SIMCO Engineering, P.C.
1999 - 2005 Gannett Fleming, Inc.
1997 - 2008 Silvan Ratovich, Tel Aviv
1989 - 1991 Unionchimstroi, Moscow, Russia

2010 2011 2012 2013 2014

F. Technical Approach

Project Understanding

STV has carefully read the Draft Comprehensive Logistics Plan prepared by the PATH Capital Program Logistics Planning Group (LPG) and the scope of work for PATH's $4.1 billion Capital Program, and fully understands the critical importance of effective logistics planning and project controls. Most of STV's senior team members have served in responsible positions in rail construction management and rail operations for PATH and other New York metropolitan area regional transit systems. Particularly at the World Trade Center PATH Hub and World Trade Center Site Restoration, the STV team has had first-hand experience in oversight, construction management and project controls, and understands the importance of coordinating multiple stakeholders for the concurrent and contiguous construction of multiple capital projects, as well as the constraints related to "track rights," facility forces, equipment and staging facilities, to support PATH's extensive Capital Program and ongoing maintenance programs.

The STV team understands that PATH's highest priority is the maintenance of reliable and efficient 24/7 service, and that interruption of service for construction and maintenance can severely impact the integrity of the railroad and its passenger operations. We understand the need to allocate these limited "track rights" in the most efficient way possible, in order to make certain that all Capital and Maintenance Program needs can be accommodated. As clearly outlined in the Logistics Plan, we believe that we can provide the experienced management and project control tools required to meet the challenge of providing the appropriate logistics planning, oversight management, coordination and control, and program status reporting essential to meeting Path's program objectives. We propose to provide seasoned, highly qualified personnel who are experienced with PATH and PANYNJ standards, procedures and operations, and can "hit the ground running" in supporting PATH's Logistics Planning Group. This proposal addresses not only our technical and management approach for responding to the tasks outlined in the RFP, but also provides for a full spectrum of management tools and methodologies that can be made available to PATH's Logistics Planning Group as recommended in the Logistics Plan report.

Key Issues and Challenges

As noted above, STV is proposing to provide a strong management team and a full complement of program management tools as outlined in the Technical and Management Approaches of this proposal, in order to respond to the key issues and challenges of delivering PATH's Capital Program on time and on budget, while making certain that PATH's operating, maintenance and facility staffing, equipment and staging facility requirements and constraints are met. We will achieve this by:

- Maintaining frequent communications and coordination with PATH project management, operating divisions including Way and Structures, Power Signals and Communications, and Transportation, World Trade Construction, the Engineering Department's Construction Management Division and other consultants and contractors, as required, to obtain timely project information and coordinate project scheduling and resource needs.
- Responding in a timely manner to the changing demands of the projects and PATH operating needs by supporting PATH's Logistics Planning Group management in developing open communications with mutual respect and trust to make sure of full cooperation of all those involved in this Logistics Planning effort.
- Maintaining high professional and personal standards for integrity and diligence, and making certain of the quality, safety and security of all Logistics Team activities and deliverables through management practices and procedures.
- Providing a fully integrated management team that can provide highly responsive, knowledge-

able and experienced rail operations, planning and construction professionals to develop, manage and maintain the Capital Program Logistics Plan.

- Providing the most effective and current management scheduling, resource planning, estimating, and cost control tools implemented by trained, qualified and experienced project controls staff.
- Providing, on an on-call basis, a pool of engineers, architects, construction oversight specialists, rail operation specialists, and other rail construction experts to support the PATH Capital Program as-needed.
- Placing a high priority on logistics planning and coordination for maintaining uninterrupted and safe rail operations, with a particular focus on track rights, facility forces, construction equipment, and the availability of staging facilities.

Technical Approach

The STV team's overall approach to providing ongoing logistical planning support, including detailed project/master programming, scheduling and related support to make certain of the timely delivery of PATH Capital Program elements, will be as follows:

1. Support the PATH Logistics Planning Group on a fully integrated team basis by providing ongoing coordination and consultation with all PATH and Port Authority divisions, consultants and contractors, as required, to make sure that the necessary "track rights" and PATH Facility Force and equipment support are provided in the most efficient and cost-effective manner possible. STV staff will also assist PATH in providing the capital project oversight to identify and resolve inter-project coordination issues and conflicts, and will keep PATH management apprised of project delivery status and support PATH in identifying and obtaining required additional staff resources, equipment and staging areas needed to make certain of timely implementation of the Capital Program.
2. Exploit the full potential of Oracle's Primavera P6 Portfolio Management software program as a multi-project, multi-user tool for enterprise-wide project management, providing comprehensive information on all PATH capital projects, from executive-level summaries to detailed work assignments for each PATH team member. Primavera is an integrated solution with Web-enabled, client/server, and desktop software that provides role-specific tools to support each appropriate PATH facility forces' team member.
3. Beyond standard project and construction critical-path-method (CPM) scheduling, the emphasis of the STV approach will be on enterprise-level logistical planning, prioritizing, and level-loading management of PATH track rights capacity, facility force resources, construction support equipment, and construction staging facilities. Using STV's expert P6-qualified CPM schedulers and project controls staff, we will develop and maintain the facility force Master Schedule, coordinate with PATH, World Trade Center, and the Construction Management Division's project managers, schedulers, and cost estimators to resource-load the CPM schedule from enterprise-level resource data inputs, to provide facility force schedules and cost/schedule monthly update reports, and to assist the cost engineer, PATH Management and project managers in preparing facility force estimates for all projects.
4. STV will use its project controls and program/project management staff to support and supple-

ment PATH's Capital Program day-to-day program management team. STV's project management and controls staff has exceptionally experienced facility force planning and field coordinators, CPM scheduling experts, and cost engineers to support PATH staff in providing a full range of cost and schedule management oversight and monitoring services for the designers and contractors. Our scheduling/project controls team includes project management and project control professionals who have been involved in the planning, design, and construction of numerous, large-scale projects nationwide. These professionals are trained and experienced in a variety of scheduling and related software programs, including, but not limited to:

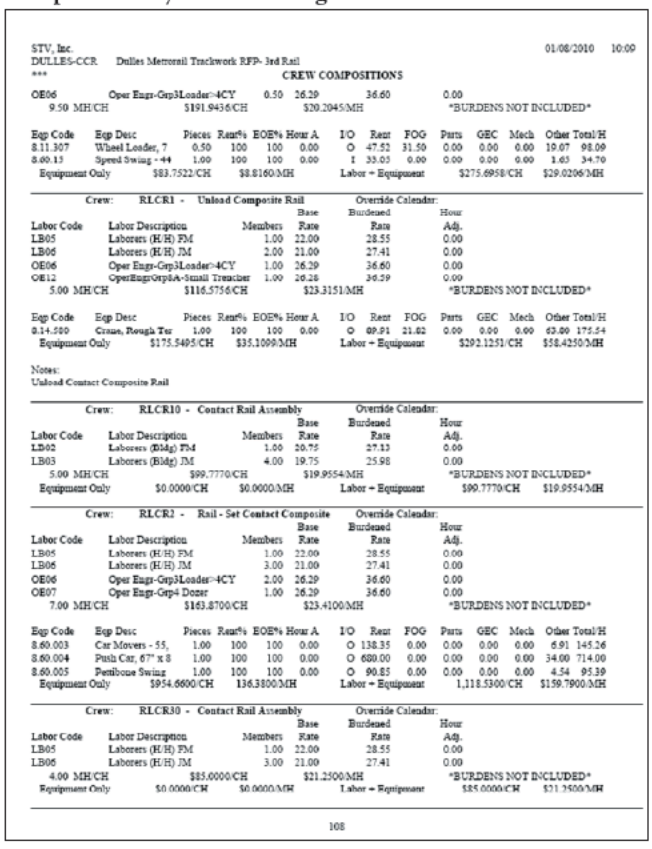
- Additional Professional Project Management modules that supplement the Primavera P6 Enterprise Portfolio Management in order to plan, schedule, and control either large-scale, multi-project programs, or individual projects from conceptual design to construction completion.
- Primavera Pertmaster to perform scheduling and cost/risk analysis using STV's in-house staff of risk management professionals.
- Autodesk Naviswork Manager for 4-D/5-D graphic scheduling management, phasing presentations, and building information modeling (BIM), linked with Primavera or Microsoft scheduling programs and Autodesk Revit CADD software.
- Primavera Contract Manager (formerly Expedition) to plan, schedule, track, monitor, and manage document submittals and change orders during all phases of a project.
- Primavera P3 Project Planner for clients that prefer to maintain consistency with existing CPM scheduling programs, files, and standards.
- Microsoft Project for clients that often require user-friendly schedules for project managers for design management and small projects.

Our team will make available a full complement of scheduling tools to develop and monitor project baseline schedules and, as an option, provide to PATH sophisticated, multi-dimensional phasing, BIM, and staging presentations.

5. Using STV's experienced in-house program/project managers, rail operations specialists, design engineers, construction managers and project controls staff, STV is fully capable of providing the following additional related logistical services including, but not limited to:

- PATH facility force cost estimating and cost management. STV's Cost Control Department estimators and cost engineers have extensive experience in estimating and managing facility force account costs for numerous rail and transit systems in the New York metropolitan area and nationwide. Of all the estimating software programs that STV has available to serve our clients, we will use the HCSS estimating program, HeavyBid, for PATH facility force cost planning and management linked with the Primavera P6 Portfolio Management suite of management tools as discussed above. HeavyBid is particularly appropriate for rail construction estimating and its ability to provide for detailed "bottom-up" crew-based estimates, and its ability to easily adjust productivity factors that may be unique to PATH facility force site-specific requirements. The cost

Sample Facility Force Configuration Database



STV, Inc. 01/08/2010 10:09
DULLES-CCR Dulles Metrorail Trackwork RFP- 3rd Rail
***
CREW COMPOSITIONS

OE06 Oper Engr-Grp3Loader>4CY 0.50 26.29 36.60 0.00
9.50 MH/CH $191.9436/CH $20.2045/MH *BURDENS NOT INCLUDED*

Eqp Code	Eqp Desc	Pieces	Rent%	EOE%	Hour A	I/O	Rent	FOG	Parts	GEC	Mech	Other Total/H
8.11.307	Wheel Loader, 7	0.50	100	100	0.00	O	47.52	31.50	0.00	0.00	0.00	19.07 98.09
8.60.13	Spred Swing - 44	1.00	100	100	0.00	I	33.03	0.00	0.00	0.00	0.00	1.63 34.70
Equipment Only		$83.7522/CH		$8.8160/MH		Labor + Equipment			$275.6958/CH			$29.0206/MH

Crew: RLCR1 - Unload Composite Rail Override Calendar:

Labor Code	Labor Description	Members	Base Rate	Burdened Rate	Hour Adj.
LB05	Laborers (H/H) FM	1.00	22.00	28.55	0.00
LB06	Laborers (H/H) JM	2.00	21.00	27.41	0.00
OE06	Oper Engr-Grp3Loader>4CY	1.00	26.29	36.60	0.00
OE12	OperEngrGrp8A-Small Trencher	1.00	26.28	36.59	0.00
5.00 MH/CH		$116.5756/CH		$23.3151/MH	*BURDENS NOT INCLUDED*	

Eqp Code	Eqp Desc	Pieces	Rent%	EOE%	Hour A	I/O	Rent	FOG	Parts	GEC	Mech	Other Total/H
8.14.500	Crane, Rough Ter	1.00	100	100	0.00	O	69.91	21.62	0.00	0.00	0.00	63.00 175.54
Equipment Only		$175.5405/CH		$35.1099/MH		Labor + Equipment			$292.1251/CH			$58.4250/MH

Notes:
Unload Contact Composite Rail

Crew: RLCR10 - Contact Rail Assembly Override Calendar:

Labor Code	Labor Description	Members	Base Rate	Burdened Rate	Hour Adj.
LB02	Laborers (BMg) FM	1.00	20.75	27.12	0.00
LB03	Laborers (BMg) JM	4.00	19.75	25.98	0.00
5.00 MH/CH		$99.7770/CH		$19.9554/MH	*BURDENS NOT INCLUDED*	
Equipment Only		$0.0000/CH		$0.0000/MH	Labor + Equipment	$99.7770/CH $19.9554/MH

Crew: RLCR2 - Rail - Set Contact Composite Override Calendar:

Labor Code	Labor Description	Members	Base Rate	Burdened Rate	Hour Adj.
LB05	Laborers (H/H) FM	1.00	22.00	28.55	0.00
LB06	Laborers (H/H) JM	3.00	21.00	27.41	0.00
OE06	Oper Engr-Grp3Loader>4CY	2.00	26.29	36.60	0.00
OE07	Oper Engr-Grp4 Dozer	1.00	26.29	36.60	0.00
7.00 MH/CH		$163.8700/CH		$23.4100/MH	*BURDENS NOT INCLUDED*	

Eqp Code	Eqp Desc	Pieces	Rent%	EOE%	Hour A	I/O	Rent	FOG	Parts	GEC	Mech	Other Total/H
8.60.003	Car Movers - 55,	1.00	100	100	0.00	O	138.35	0.00	0.00	0.00	6.91	145.26
8.60.004	Push Car, 67" x 8	1.00	100	100	0.00	O	680.00	0.00	0.00	0.00	34.00	714.00
8.60.005	Pentbone Swing	1.00	100	100	0.00	O	90.85	0.00	0.00	0.00	4.54	95.39
Equipment Only		$954.6600/CH		$136.3800/MH		Labor + Equipment			$1,118.5300/CH			$159.7900/MH

Crew: RLCR30 - Contact Rail Assembly Override Calendar:

Labor Code	Labor Description	Members	Base Rate	Burdened Rate	Hour Adj.
LB05	Laborers (H/H) FM	1.00	22.00	28.55	0.00
LB06	Laborers (H/H) JM	3.00	21.00	27.41	0.00
4.00 MH/CH		$85.0000/CH		$21.2500/MH	*BURDENS NOT INCLUDED*	
Equipment Only		$0.0000/CH		$0.0000/MH	Labor + Equipment	$85.0000/CH $21.2500/MH

108

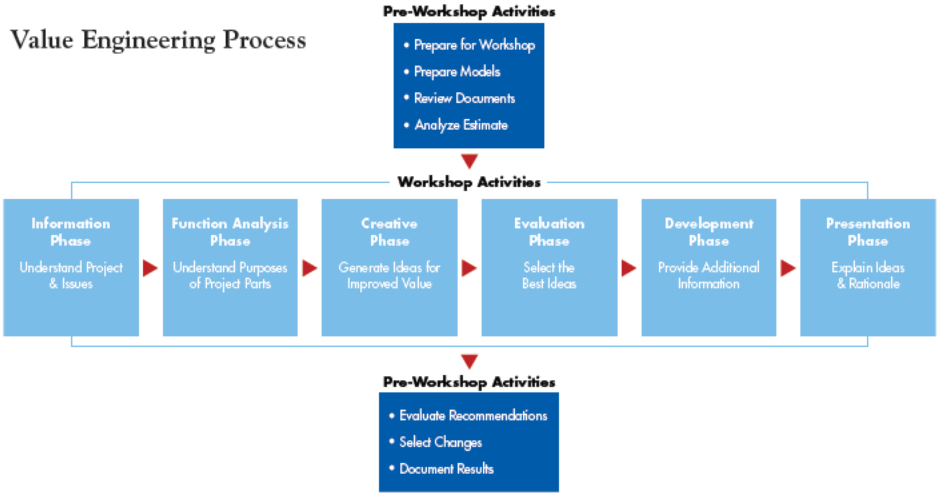
estimate generated by STV's estimators will be used to cost and resource-load the P6 program at the enterprise level to provide a high degree of management flexibility for level-loading the PATH force facility work on the rail right-of-way during construction.

- Management and preparation of rail planning and scoping studies to support the PATH Capital Program and to establish the scope of Program elements. STV staff has produced many rail facility technical reports and studies, some similar to the Draft Comprehensive Logistics Plan included in the RFP, for rail and transit systems nationwide. STV has available an extensive staff of rail and transit Subject Matter Experts (SMEs) to prepare and/or review technical reports and studies on an as-needed basis to support the PATH Capital Program. Such studies may include, but not be limited to, the following suggested subjects:
- Constructability analysis and reviews
- Transportation planning, including pedestrian/ vehicular flow analysis
- Utilities management plans
- Track, signal, power and communications technical studies and reports
- Site safety and security planning
- A/E design support and/or reviews including architectural, structural, mechanical, electrical, plumbing/fire protection, and environmental specifications, as needed.
- Providing additional construction management field oversight work to supplement PATH and/ or Construction Management Division oversight staff, as needed. STV has many seasoned veteran rail and transit construction managers and resident engineers, as well as subconsultant support, to supplement PATH and PANYNJ staff.

6. Although not requested in the RFP, but recommended in the Draft Comprehensive Logistics Plan, STV is fully capable of providing the following additional optional services as needed to support the PATH Capital Plan:

- Full Value Engineering (VE) services under the direction of STV's in-house Certified Value Specialist (CVS), and use of in-house SMEs for VE workshops. VE entails the systematic, multidisciplinary analysis of the functions of a project or service to achieve the best value at the lowest overall life-cycle cost without sacrificing quality, safety, reliability, or maintainability. STV's CVS facilitator has conducted VE workshops involving extensive facility force account planning for the LIRR's East Side Access Project (e.g., Harold Interlocking, Grand Central Terminal East Yard Restoration,) and New Jersey Transit's Broad Street Station Constraint Relief and Center Platform Addition Project.

Value Engineering Process



- Constructability Analysis and Reviews using STV in-house SMEs.
- Full Risk Management (RM) services, also under the direction of STV's Risk Manager. RM services entail the systematic analysis of project cost and schedule risks/opportunities related to delivery of the PATH Capital Program, and provide for risk mitigation management. The RM process will provide to PATH senior management an ongoing assessment of their risk exposure, and a determination of the required project contingency to enable a high level of confidence that Capital Program projects will be completed within their cost and schedule goals. STV's Risk Manager has

conducted several cost and/or schedule risk assessments involving extensive facility force account planning for the WTC PATH Hub, NYCT's Fulton Transit Center and South Ferry Terminal, and the Washington Metropolitan Area Transit Authority's New York Avenue Infill Station.

- Implementing an Internet-accessible electronic filing system similar to LiveLink used for the WTC PATH Hub project.

- Providing dedicated cost control specialists to deliver a full range of PANYNJ format Stage I to Stage IV design and construction phase cost controls, such as cost estimating services, earned value management, Planned and Present Workload management, and change order management.

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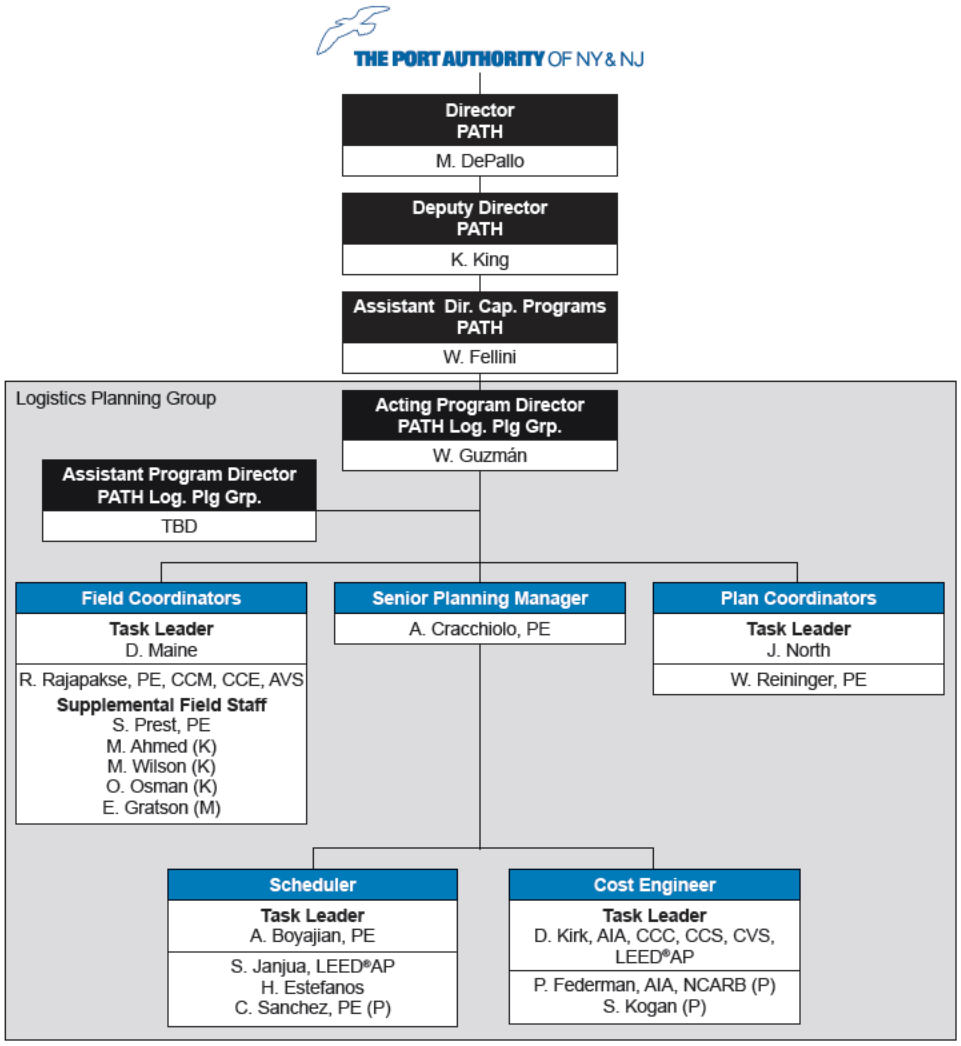
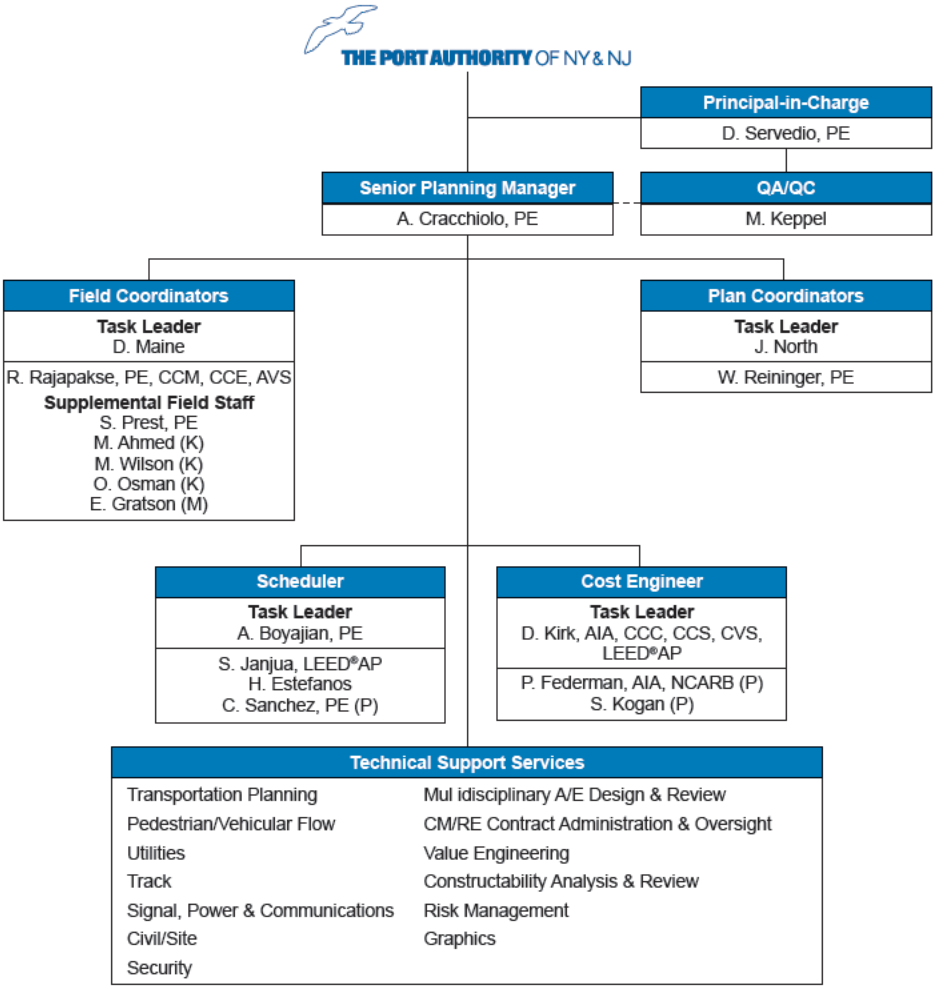
G. Management Approach

The PATH Capital Program and the Logistics Planning effort require a team led by experienced professionals, supported by proven management methods and oversight. STV's objective is straightforward: to provide the leadership, coordination, project controls, and technical expertise required for supporting the Capital Program. STV's management structure is reflected in the staffing assignments in the PATH Logistics Planning Group Organization Chart shown below.

Under the direct day-to-day supervision of STV's **Senior Planning Manager, Mr. Anthony Cracchiolo, PE,** the lead STV Task Managers will employ all of the tools and methodologies discussed in our Technical Approach. Mr. Cracchiolo brings more than 40 years of design, program, and construction management experience to this project, including working for the PANYNJ for 36 years. He has significant program management experience, including leading the planning effort for the World Trade Center Redevelopment Program, which involved redevelopment planning and management of the World Trade Center site, the restoration of PATH service to Exchange Place and the World Trade Center site, and the redevelopment of the PATH Transportation Hub. He will serve as a leading member of the Logistics Planning Group (LPG) reporting to the PATH Capital Program Director-PATH LPG, and will be supported by STV Task Managers to provide input and carry out the coordinated requirements of the LPG. Mr. Cracchiolo will oversee facility force planning and construction interface with project managers and with third party contractors; and provide overall management of the acquisition of data needed to evaluate the adequacy of available and planned resources and how they might be most effectively utilized, including project managers, construction managers, and PATH personnel. He will make certain of timely completion of analyses and reports; advise PATH management in the planning of facility force personnel relating to PATH's operating needs and requirements supporting the Capital Program; and provide overall management of STV staff and subconsultant efforts as



P - PACO Group, Inc. (MBE)
K - KS Engineers, P.C. (MBE)
M - Matrix New World Engineering, Inc. (WBE)



P - PACO Group, Inc. (MBE)
K - KS Engineers, P.C. (MBE)
M - Matrix New World Engineering, Inc. (WBE)

may be required within the schedules and budgets approved by PATH.

We have also included an organization chart (above) exclusively illustrating the structure of STV's internal team, including technical support services that may arise during the course of this contract. Dominick Servedio, PE, will serve as STV's Principal-in-Charge.

Under Mr. Cracchiolo's direction, STV's strategy is to perform the specific Consultant's Tasks as outlined in the RFP's Attachment A, Scope of Work as follows:

TASK A: COORDINATION OF PATH TRACK ACCESS REQUESTS

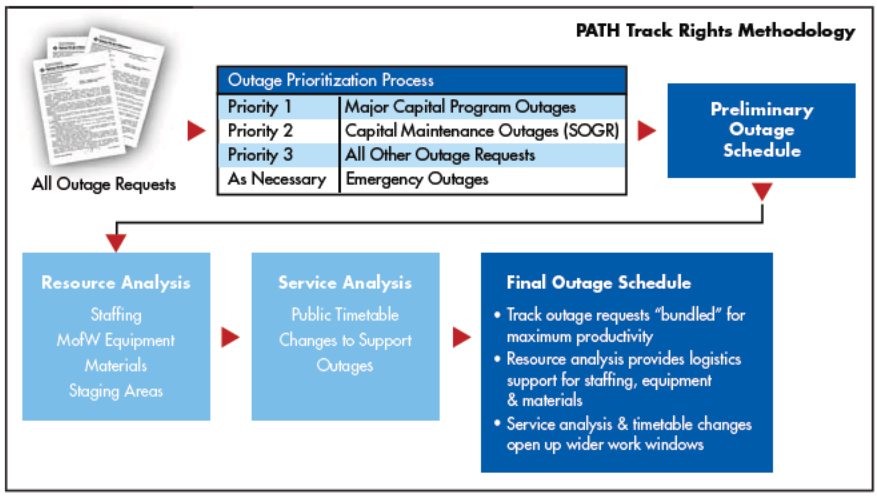
The actual planning, coordination and execution of the PATH Facility Force Logistics Plan will be jointly carried out by STV's **Senior Plan Coordinator, Joseph North,** who will conduct most of the logistical planning and coordination of the facility force in the Capital Program Office, and **Senior Field Coordinator, Daniel Maine,** who will conduct most of the field facility force coordination and oversight.

Mr. North, a former New Jersey Transit senior operations manager with more than 30 years of operations and maintenance experience in light rail, commuter rail, bus operations and paratransit systems, has 15 years of experience in developing complex track outage plans to support both large capital programs and state-of-good repair maintenance programs. As the LPG's Senior Plan Coordinator, Mr. North will manage and analyze requests for resources and generate recommendations for addressing path construction logistic resource requests. He and his staff will actively solicit monthly track access requests and related information for all major projects and maintenance activities from all stakeholders regarding project progress and timing; evaluate changes to project schedules for their impact on other planned work and on available and planned resources; manage the acquisition of data regarding actual performance of work and utilization of resources for comparison against plan; and maintain and update the work request database.

Mr. Maine has more than 25 years of experience in railroad maintenance and construction management. He worked for Amtrak for more than 23 years in a variety of roles, most recently as the Project Director of the Metropolitan Division. His expertise includes management of force account work, resident engineering, and supervision of third-party contractors. As the LPG's Senior Field Coordinator, Mr. Maine will manage, review and coordinate monthly track access requests into a single track-usage plan and conduct daily reviews of planned work and pre-

paredness by all parties for the work and solicit daily progress reports for update of activity logs. He and his staff will provide early identification of problems so that resources can be shifted to other work as appropriate, and conduct audits of field work to assess production rates and estimate forecasts for completion. He will also acquire all relevant data regarding work progress (including field audits, inspection reports, statements of completion, and the like) to assess the progress of work against plan and document and track all track access requests received by the LPG in an activity log.

Both Mr. North and Mr. Maine will participate in weekly track access rights meetings conducted by PATH's Transportation Division aimed at finalizing upcoming work plans and resource allocations, and update a monthly track-usage plan to reflect changes that arise before and during implementation. They will both serve as members of the LPG and will work with PATH's transportation division to develop a Track Rights Methodology for the production of a coordinated outage schedule. A representative model of a Track Rights methodology follows:



This model starts with an input process for collecting all outage requests. The requested outages are ranked against a predetermined set of organizational priorities identified by PATH management. As an example, it may be determined by PATH management that all track outage requests associated with major capital projects will have the highest priority, followed by outages that are part of a programmed state-of-good-repair maintenance effort, followed by other non-programmed outage requests. Emergency outage requests will also be accommodated.

The prioritization process will be used to develop a Preliminary Outage Schedule. The preliminary schedule will then go through a two-stage optimization process:

- The first stage of the optimization process will analyze the availability of staff, equipment, materials and staging areas to support the requested outage(s). This phase of the analysis will be useful in scheduling the outage, as well as in identifying the impacts that any gaps in resources have on the overall schedule of outages.
- The second phase of the optimization process involves service planning and possible changes to the public timetable in an effort to increase the number of daily hours available for outages. Many capital programs are severely constrained by small work windows. Involving service planning early in the track outage process is one way to increase the size of the daily/nightly work windows. This may be realized by changing the location of train meets, minor increases in service headways, PATH shuttle operations, substitute busing and other means. Another important advantage of involving service planning in the outage process is that it provides appropriate staff with an early awareness of the customer impacts that need to be communicated to the public.

The final outage schedule will begin to be formulated after the resource and service analyses are complete. During the development of the final outage schedule, STV staff will make recommendations to PATH for the bundling of multiple track outages into one work zone. As an example, a single-track outage between Newark and Journal Square to support the CBTC signal project might also be used to support a platform state-of-good-repair project in Harrison.

TASK B: COORDINATION AND EVALUATION OF SCHEDULES

Under the direction of **STV's Senior Scheduler, Mr. Armen Boyajian, PE,** STV CPM Schedulers will provide full-time support to the PATH Capital Program LPG using the Primavera P6 Portfolio Management suite of scheduling and management tools as discussed in the Technical Approach. Mr. Boyajian has more than 40 years of experience in project controls and CPM scheduling for major transportation projects in the New York City area and nationwide. He has developed preconstruction strategies to enhance project schedules while maintaining system and facility operations, with minimum disruptions to service, and is experienced in managing force account schedules for transportation clients. STV's in-house and subconsultant staff are all trained, qualified, and experienced in using the P6 program. Mr. Boyajian's schedulers will support the LPG team to enable effective evaluation, coordination and the planning/field management efforts related to facility force activities, as well as all the Capital Program construction projects. The assigned schedulers will first solicit design and construction schedules and/or scheduling requirements from all stakeholders involved in the delivery of the Capital Program, and develop and maintain a Master Schedule of proposed construction on the Capital Program. All CPM schedules will be appropriately resource-loaded, periodically updated and analyzed to enable technical analysis to be provided to the LPG, particularly for track access rights and available and planned resources staffing level-loading. The STV schedulers will analyze proposed schedules to identify support resources needed for the delivery of the Capital Program and mitigate potential conflicts with other proposed work. In general, the STV schedulers will assist and coordinate with cost engineers, PATH management, and project managers in preparing facility force estimates for all of the project phases in support of the LPG.

TASK C: EVALUATION OF PATH FACILITY FORCE REQUIREMENTS

Under the direction of STV's **Cost Engineering Manager, Mr. David Kirk, AIA, CCC, CCS, CVS, LEED® AP,** STV cost engineers and cost estimators will provide full-time support to the PATH Capital Program. Mr. Kirk is a risk and value engineering manager with more than 40 years of experience in overseeing design, estimating, scheduling, value/risk analysis, and construction for large-scale transportation and other facility projects in the New York metropolitan area. Prior to joining STV, he served as the Senior Project Controls, Cost, and Schedule Specialist for a project management oversight consulting contract at the Federal Transit Administration's Lower Manhattan Recovery Office, which involved monitoring the transit and infrastructure aspects of the WTC site redevelopment. In addition, Mr. Kirk brings experience from his 30-year career with the PANYNJ, where he held positions of increasing leadership in planning, design, estimating, and construction. Mr. Kirk's team of cost engineers and cost estimators will first analyze PATH staffing requirements to enable cost and resource loading of proposed schedules activities (see Task B) to generate timely identification of required staffing modifications to update facility force budget databases. Using the HeavyBid estimating program as discussed in the Technical Approach, the cost engineers will develop bottom-up estimates of crew configurations, productivity rates, and equipment support cost for all construction activities performed by PATH facility forces (e.g., the replacement of turnouts, rail), as well as for contract cost estimates, as needed. This information will be used to forecast facility force costs for proposed construction activities, as well as to evaluate accrual levels and earned value calculation for facility force work for PATH on an as-requested basis. Cost estimators will develop the facility force costs based on a PATH-defined activity matrix for integration into bid documents, and perform reviews of contract documents on an as-needed basis to determine duplication of third party and facility force work, as well as provide cost-estimating services for value-engineering and/or risk analysis reviews as discussed in the Technical Approach. In general, STV cost engineers and schedulers will assist and coordinate with cost engineers, PATH management, and project managers in preparing facility force estimates for all of the project phases in support of the LPG. This will also include providing projections for monthly cost reports and annual budget projections and the maintenance/update of facility force wage rates, as well as assisting PANYNJ's Management and Budget and Human Resources Departments in

assessing staffing changes needed to facilitate their efforts in procuring required PATH employee Capital Program staff.

TASK D: LOGISTICAL SUPPORT

Under the overall direction of Mr. Cracchiolo and when requested by PATH management on an as-needed task-order basis, his senior lead staff coordinators will mobilize and manage the resources necessary to prepare planning studies, investigative analyses, technical reports, technical specifications, PATH standards, and other unique specialized requirements in a wide range of relevant rail operation and construction subjects, as discussed above in Section 4 of the Technical Approach. STV will draw upon its extensive, locally-based staff of engineers, architects, construction management specialists and, if necessary, its national pool of rail construction SMEs.

STV also has available a Graphics Department to assist in preparing presentations and other informational materials for internal and external use in presenting the status and progress of the PATH Capital Program, as well as for public outreach. Our arsenal of management and presentation tools includes our in-house expertise in P6-linked CADD Autodesk Naviswork Manager for 4-D/5-D graphic scheduling management, phasing presentations, and building information modeling (BIM) to provide to PATH management sophisticated, multi-dimensional phasing, staging and project coordination presentations, as discussed in our Technical Approach.

If facility force demands cannot be met by level-loading the planned facility force capacity, STV will provide and/or enlist the services of our subconsultants to provide field personnel to support the timely delivery of the Capital Program on an as-needed basis.

TASK E. PROGRAM DELIVERABLES

STV's Project Managers are thoroughly familiar with the administration of call-in, task order-type contracts for expert professional services, including the timely delivery of schedules, executive summaries, periodic, miscellaneous, and ad hoc reports; and presentation materials for executive staff, the public, and others, as required. As required by the RFP, all deliverables will be submitted as a draft copy to PATH for review and comment. STV staff will then incorporate PATH comments as required, and resubmit the material/packages as final.

Quality Assurance and Quality Control

Key to the success of providing high quality deliverables to our clients is STV's comprehensive Quality Assurance/Quality Control (QA/QC) program required for all projects, contracts, and deliverables. The STV concept of quality encompasses all that we do. The STV quality policy ensures that we perform our services with a high level of vision, integrity, innovation, and quality to meet or exceed client expectations. Quality is the primary responsibility of every individual, discipline, department, and division in STV, and is controlled through established procedures for planning, performing, reviewing, and evaluating our work prior to delivery to a client. Quality is assured through a process of verification and conformance with established STV procedures.

STV's Quality Manual and associated STV procedures and standards are applicable to all STV personnel, except when the client directs the use of alternate plans, procedures, and standards. STV maintains documented procedures consistent with the requirements of ISO 9001:2008 and our quality policy. STV will develop a Project Quality Plan for this Logistics assignment and/or for each task order, as appropriate, to assure that all quality standards are met. For PATH construction management service, assigned QA/QC and CM staff will comply with PATH and PANYNJ Quality Management Programs.

In order to provide Quality Assurance oversight of STV's team for all of our PATH services and deliverables, we are proposing **Michael Keppel** for **Quality Assurance/Quality Control**. Mr. Keppel is a quality systems manager with more than 10 years of experience providing oversight and managing quality assurance and quality control programs for electrical networks, communications systems, training programs, and performance audits for corporations, military operations, government contracts, and the PANYNJ's multi-billion dollar redevelopment of the WTC site. He is familiar with all industry and government standards and regulations, including Inter-

national Organization for Standardization (ISO), Federal Transit Administration (FTA), and International Trade Administration (ITA) standards.

Safety and Security

STV cannot overstate the importance of making sure of the safety of our staff on the construction site and within the PATH operating environment. Our staff will be OSHA trained, receive the requisite PATH safety training, and comply with all safety protocols while on the job site and PATH property. The maintenance of both on-site security, as well as the confidentiality and security of all documents and sensitive project information and compliance with all PATH and PANYNJ security protocols, will be strictly adhered to.

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H. Subconsultants

H. Subconsultants

STV has selected a team of highly qualified M/WBE subconsultant firms to supplement our in-house services on this contract. We have provided below for each subconsultant information on the terms and conditions for their compensation, their M/WBE status, brief firm profiles, and relevant project experience. Resumes for our subconsultant team members are included in Section E, Staff's Qualifications and Experience.

PACO Group, Inc. (PACO) (MBE), founded in 1989, is a full-service program management and construction management consulting firm headquartered in New York City. PACO will provide scheduling/estimating support for this contract. The firm's qualifications and experience includes expertise in capital program development and construction management for major transportation infrastructure and railroad facilities, including automated transit and rail systems. The following projects are representative examples of PACO's experience:

World Trade Center Transportation Hub – Cost Estimating

Owner: Port Authority of New York and New Jersey (PANYNJ)
Client: Downtown Design Partnership, A Joint Venture of DMJM + Harris (now AECOM) & STV Incorporated
Reference: F. Ross Edwards, PE, Project Director
Downtown Design Partnership
[redacted]
Completion Date: 2008

PACO, as a subconsultant to the Downtown Design Partnership, is providing cost estimating services for the final design of the World Trade Center Transportation Hub. The estimates are fully developed and based on the necessary labor, material, and equipment requirements, accompanied with the requisite adjustments in productivity. The estimates reflect the sequence of construction and include labor adjustment factors, confined space work, limited construction access, overtime, and an assessment of the general conditions and contingency.

East Side Access, Program Management Services

Owner: MTA/Long Island Rail Road
Client: URS Corporation
Reference: Jeffery Vladyka, PE
URS Corporation
[redacted]
Completion Date: 2011

PACO is currently the largest subconsultant on the Program Management Team, which is led by URS Corporation. The firm supports all key program management functions for this endeavor.

Second Avenue Subway

Owner: MTA/New York City Transit
Client: DMJM + Harris (now AECOM) and ARUP
Reference: Chris Bennett, P.E. (DMJM + Harris/ARUP, JV)
[redacted]
Completion Date: Project ongoing

PACO, as part of the Program Management Team, is responsible for providing program/project planning, cost control, cost management, cost estimating, contract administration, project administration, CADD, and right-of-way services for the Second Avenue Subway project. The firm also provided project procurement services, including development of a project procurement plan that defined the procurement approach, organizational responsibilities, goals and deliverables.

We have included below information on the terms and conditions of compensation for PACO:

Multiplier:
Based on their 2008 FAR Audited Overhead Rate of 150.97 % and 10% fee, PACO Group's actual multiplier is 2.76. PACO's proposed discounted rate is 2.45, which is equivalent to the rate on their current contract with PANYNJ.

The breakdown of the PACO Group actual multiplier is as follows:

- Direct Labor: 100 %
- Fringe/Indirect Labor/Operating Cost: 150.97 %
- Profit: 10 %
- Actual Multiplier: 2.76

Direct Hourly Rates:
- Carlos Sanchez: $64.38
- Peter Federman: $65
- Sergey Kogan: $39.23

KS Engineers, P.C. (KSE) (MBE) is an award-winning, multidisciplinary engineering firm with offices in New York, New Jersey, and Pennsylvania. KSE will provide construction inspection services on this project. The following projects are representative examples of KSE's experience:

Atlantic City Train Station

Owner: NJ Transit
Client: JCMS, Inc.
Reference: Jayanta Dutta
[redacted]
Completion Date: 2008

Under a construction management task-order agreement, KSE provided resident engineering and inspection services for the upgrade of a rail terminal fueling facility at the Atlantic City Train Station. KSE's resident engineer was responsible for all administrative, coordination and inspection responsibilities, including handling daily correspondence and other duties as required, and supporting contractor and NJT force account activities. KSE was also responsible for providing overall construction coordination, to make certain that the work progressed in accordance with approved contract plans and specifications and good engineering practices.

Call-in Basis Construction Management Services – 2007, 2008, and 2009

Client: Port Authority of New York and New Jersey (PANYNJ)
Reference: Bruno Signorelli
Resident Engineer
(201) 216-6523
Completion Date: Project ongoing

KSE was retained by PANYNJ to provide electrical inspection services for PATH system upgrades and improvements. The project included rehabilitation of electrical power and lighting equipment, system upgrades for alarm and communication equipment, and site work at stations, rail yards and tunnels. Specific tasks included coordination of work, supervision of the contractors for infrastructure improvements, and homeland security projects throughout the PATH system. This coordination effort included working with train schedules to make sure of minimized impact to revenues and the traveling public, and entailed conducting work within a tight and specific time frame. The work was conducted as part of a capital projects program dedicated to the safety and security of the PATH System.

PANYNJ 2008-2009 MBE/WBE Call In Contract for Structural Engineering Services

Client: Port Authority of New York and New Jersey (PANYNJ)
Reference: Amit Chatterjee
Principal Structural Engineer
(973) 792-4497
Robert Kumapley
Project Manager
(212) 792-4486
Completion Date: Project ongoing

Services consist of preparing structural engineering studies, condition surveys, designs, contract drawings, technical specifications, and construction cost estimates for a wide variety of new facility structures and structural renovation and rehabilitation projects for PATH, JFK Airport, LaGuardia Airport, and Stewart Airport.

Civil Engineering Services on a Call-in Basis during 2008 and 2009

Client: Port Authority of New York and New Jersey (PANYNJ)
Reference: Joseph A. Calautti, PE
(973) 792-4337
Completion Date: Project ongoing

KSE was retained by the PANYNJ to provide civil engineering services on a "call-in" basis during 2008

and 2009. Services include preparation of civil engineering designs, contract drawings, technical specifications, and construction cost estimates for a variety of new projects, as well as rehabilitation, restoration and resurfacing. Projects include work at JFK Airport and Stewart International Airport.

We have included below information on the terms and conditions of compensation for KSE:

Multiplier:
Based on their 2008 FAR Audited Overhead Rate of 130.0% and 10.0% fee, KS Engineers' actual multiplier is 2.53. KSE's proposed discounted rate is 0.33, which is equivalent to the rate on their current contract with PANYNJ.

The breakdown of the KS Engineers actual multiplier is as follows:

- Direct Labor: 1.00
- Fringe/Indirect Labor/Operating Cost: 130.0%
- Profit: 10.0%

Actual Multiplier: 2.53

Direct Hourly Rates:
- Mukheet Ahmed: $42.00
- Michael Wilson: $42.00
- Osama Osman: $35.35

Matrix New World Engineering, Inc. (Matrix) (WBE), founded in 1990, is an environmental, geotechnical, civil and building facility engineering firm headquartered in East Hanover, New Jersey. The firm will provide field coordination support on any environmental issues that should arise during the course of this contract. Matrix has completed ecological studies and environmental assessments for major transportation agencies including Metropolitan Transportation Authority/Long Island Rail Road, NJDOT, NJ Transit, NYCDOT, and PennDOT. The following projects are representative examples of Matrix's experience:

Building Condition Surveys - JFK International Airport, LaGuardia Airport, and Newark Liberty International Airport

Owner: Port Authority of New York and New Jersey (PANYNJ)
Client: DMJM+Harris (now AECOM)
Reference: Dean Kimball
[redacted]
Richard Ravit, AICP
[redacted]
Completion Date: 2007

Matrix completed the environmental portion of building condition surveys of various spaces located within JFK International Airport, LaGuardia Airport, and Newark Liberty International Airport. The purpose of the assessment and surveys was to determine if the occupant and/or the PANYNJ were in compliance with federal, state, and local environmental laws and regulations.

On-Call Expert Geotechnical Services

Client: Port Authority of New York and New Jersey (PANYNJ)
Reference: Sam Leifer, PE
(973) 565-7570
Completion Date: Project ongoing

Matrix has provided geotechnical engineering services to the PANYNJ for the past six years through an on-call, task-order contract. Assignments include analysis and design of pile foundations for a new pedestrian overpass at JFK Airport; the measurement and evaluation of the impact of vibrations at LaGuardia Airport; and the measurement of vibration of a FAA radar tower at Newark Liberty International Airport.

Croton-Harmon Yard 21 Construction Management Oversight

Client: MTA Metro-North
Reference: Ron Capitelli
[redacted]
Completion Date: Project ongoing

As part of this project, Matrix provided environmental construction inspection services and asbestos containing materials and lead-based paint surveys for the Croton-Harmon Yard 21 Improvements and Employee Overpass located in the Harmon Yard. The yard is being partially reconstructed to include new electric service and required ancillary services,

as well as new and relocated track and associated industrial systems. During construction of the Phase I work for the project, Matrix was responsible for making certain that the management of contaminated materials was conducted in accordance with applicable regulatory requirements, as well as Metro-North Railroad's regulations and operating requirements. During design of the Phase II work, Matrix conducted an asbestos and lead-based paint survey for 10 existing structures within Harmon Yard.

We have included below information on the terms and conditions of compensation for Matrix:

Multiplier:
Overhead Multiplier Calculation (actual Multiplier is 2.75*)

- Direct Labor 1.00
- Overhead Rate 1.50
- Subtotal 2.50
- Fixed Fee/Profit (4.8%) 0.12
- Multiplier 2.62

Note: Matrix's actual multiplier is 2.75; they are providing a previously approved rate in this contract in the above calculation.

Direct Hourly Rates:
- Eric Gratson - $45.71

2010

2011

2012

2013

2014

I. M/WBE Participation

The STV team is committed to meeting or exceeding the 12% MBE and 5% WBE participation goal established by PANYNJ for this contract. We have included below a list of these firms and the services that we anticipate they will provide. Certifications for each of these firms follow in this section.

PACO Group, Inc. – Scheduling/estimating support

KS Engineers, P.C. – Construction inspection

Matrix New World Engineering, Inc. – Field coordination support/environmental issues

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Anthony E. Shorris
Executive Director

Certified

by

Office of Business & Job Opportunity

PACO Group, Inc.

Certificate PA-557

This certificate acknowledges that the above named firm is certified as a **Minority Business Enterprise**. This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: December 31, 2007

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: December 31, 2012

Form: 6/10/93

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Anthony E. Shorris
Executive Director

Certified

by

Office of Business & Job Opportunity

PACO Group, Inc.

Certificate PA-557

This certificate acknowledges that the above named firm is certified as a **Small Business Enterprise (Construction Program).** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: December 31, 2007

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: December 31, 2012

Form: 6/10/93

THE PORT AUTHORITY OF NY & NJ

RECEIVED JAN 08 2008

December 31, 2007

Mr. Frank Otero
President
PACO Group, Inc.
110 Willam Street, Suite 3010
New York, NY 10280

RE: **MBE CERTIFICATION**
TYPE: **PURCHASING**

Dear Mr. Otero:

This is to acknowledge receipt of the Uniform Certification Application which your firm submitted. **PACO Group, Inc.** has been included on our roster of eligible **Minority Business Enterprises (MBEs)** for contracts with the Port Authority of New York and New Jersey.

Please be advised that the Port Authority's Office of Business & Job Opportunity periodically reviews all certifications and reserves the right to decertify any previously certified firm that no longer meets the Port Authority's guidelines for **MBE** designation.

Additionally, any **MBE** whose business incurs changes in any substantial manner must notify the Office of Business & Job Opportunity within thirty days of that change. These changes include, but are not limited to, a change of officers, directors, location, corporate name, or financial condition. Failure to advise of these changes may result in our removing the firm from our roster of eligible **MBEs**.

If you have any questions regarding your certification, please feel free to contact Rosemary Jenkins-Varela at (212) 435-7806.

Sincerely,

Lash Green
Director
Office of Business & Job Opportunity

LG/AM/pl

Enclosures: Certificate
Registration Notice

233 Park Avenue South
New York, NY 10003

THE PORT AUTHORITY OF NY & NJ

December 31, 2007

Mr. Frank Otero
President
PACO Group, Inc.
110 William Street, Suite 3010
New York, NY 10280

RE: **SBE CONSTRUCTION PROGRAM**
SPECIALTY: **ELECTRICAL**
RANGE: **C: OVER $1.5 MILLION**

Dear Mr. Otero:

We have completed our review of your qualifications for recertification as a **Small Business Enterprise (SBE)**, and we are pleased to inform you that your application has been approved. As an **SBE, PACO Group, Inc.** continues to be on the Port Authority's list of certified **SBEs**.

Please be advised that the Port Authority's Office of Business & Job Opportunity periodically reviews all certifications and reserves the right to decertify any previously certified firm that no longer meets the Port Authority's guidelines for **SBE** designation.

Additionally, any **SBE** whose business incurs changes in any substantial manner must notify The Port Authority of New York and New Jersey's Office of Business & Job Opportunity within thirty days of that change. These changes include, but are not limited to, a change of officers, directors, location, corporate name, or financial condition. Failure to advise of these changes may result in our removing the firm from our roster of eligible **SBEs**.

If you have any questions regarding your certification, please feel free to call Rosemary Jenkins-Varela at (212) 435-7806.

Sincerely,

Lash Green
Director
Office of Business & Job Opportunity

LG/RJV/pl

Enclosures: Certificate
Registration Notice

233 Park Avenue South
New York, NY 10003

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Joseph J. Seymour
Executive Director

Certified

By

Business & Job Opportunity

KS Engineers, P.C.

Certificate PA - 20373

This certificate acknowledges that the above named firm is certified as a **Minority Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a Verification Statement attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Wilfred Chabrier
General Manager
Certified: June 18, 2004

Rosemary Jenkins-Varela
Manager
Scheduled Re-evaluation: June 17, 2009

Form: 6/10/93 CAW

THE PORT AUTHORITY OF NY & NJ

VIA E-MAIL

August 17, 2009

Mr. Kamal Shahid
President
KS Engineers, P.C.
494 Broad Street, 4th. Floor
Newark, NJ 07102

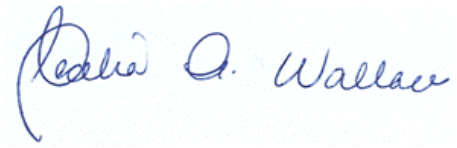
Dear Mr. Shahid:

This letter confirms that the Office of Business & Job Opportunity received your MBE recertification package on July 27, 2009 for review. The certification review takes approximately 60 business days after it is assigned. Your case was assigned on August 3, 2004. However, because of our overwhelming workload at this time, processing of applications is taking longer, so, please be patient. If, after 60 business days, by October 28, 2009, you do not hear from us you may contact us at either ***(212) 435-7816*** or ***wmiller@panynj.gov*.**

If more information is needed to help us with the review someone will be in touch with you. All communication will be in writing and we will notify you of our final decision.

On **June 18, 2004** your company was MBE approved and will remain certified until we complete our review and make a determination.

Sincerely,



for Rosemary Jenkins-Varela
Manager, Certification Unit
Office of Business & Job Opportunity

233 Park Avenue South
New York, NY 10003
T: 212 435 7000

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Anthony E. Shorris
Executive Director

Certified

by

Office of Business & Job Opportunity

Matrix Environmental and Geotechnical Services, Inc.

Certificate PA-13393

This certificate acknowledges that the above named firm is certified as a **Small Business Enterprise (Architectural and Engineering Program).** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Lash Green
Director
Certified: April 27, 2007

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: April 26, 2012

Form: 6/10/93

2010
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2013
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J. Affiliates

STV Incorporated is a wholly-owned subsidiary of STV Group, Incorporated. STV Group, Incorporated is wholly owned by a trust, the STV Employee Stock Ownership Plan (STV ESOP). The following firms are affiliated entities of STV through common ownership:

STV Engineering, Inc.

STV Architects, Inc.

STV Architects, P.C.

STV Architects I, P.C.

STV Environmental, Inc.

STV Construction, Inc.

STV Construction Services, Inc.

STV International, Inc.

STV/Silver & Ziskind Architects, P.C

STV/Silver & Ziskind

STV Canada Consulting Inc.

STV Canada Construction, Inc.

STV Canada Architects, Inc.

STV Security Solutions Group, Inc.

STV Massachusetts, Inc.

STV Middle East, Inc.

STV/WAI Inc.

PATH
Task
Category 3
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NEWARK
PATH
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K. Contract Exceptions

STV takes no exceptions to the contract included as part of this RFP.

2010

2011

2012

2013

2014

L. Conflict of Interest

Although STV Incorporated (STV) does not believe that this relationship constitutes or gives the appearance of a conflict of interest, in the interest of full disclosure, please be advised that an STV employee who has no involvement in any aspect of the contract relating to the "Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH)" is married to Kirby King, the Deputy Director of PATH at the Port Authority of New York and New Jersey.

THE PORT AUTHORITY OF NY & NJ

PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2010 THROUGH 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) RFP #19980

Table of Contents

Sections **Page**

A. Attachment B

B. Transmittal Letter

- Joint Venture Written Agreement
- Attachment C

C. Cost

D. Firm Qualifications & Experience.....1

E. Staff's Qualifications & Experience 8

- Resumes of Key Personnel

F. Technical Approach.....10

G. Management Approach.....22

H. Subconsultants

I. MBE/WBE Participation

J. Affiliates

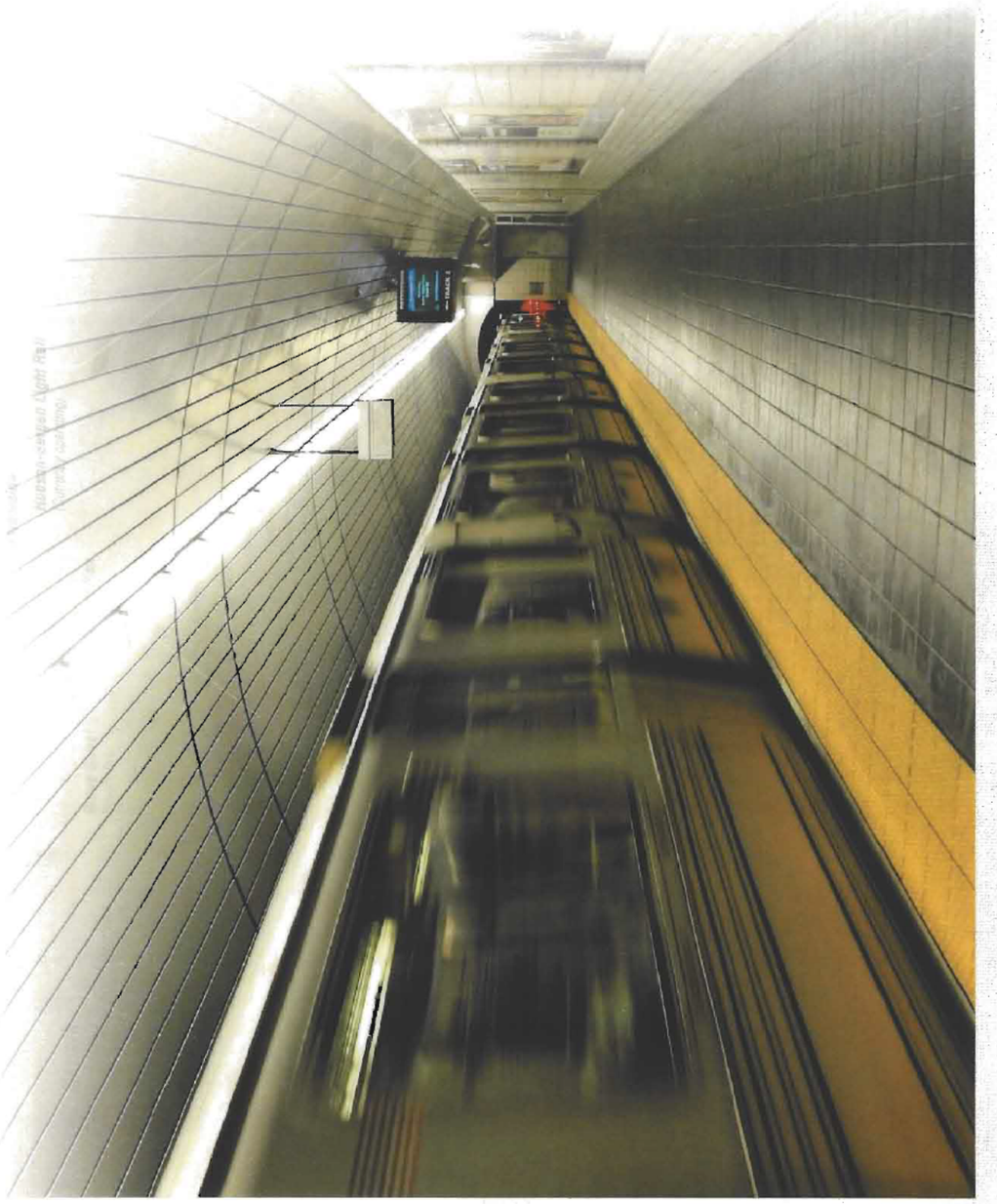
K. Contract Exceptions

L. Conflict of Interest

Forms & Certifications

Standard Forms

A. Attachment B



ATTACHMENT B

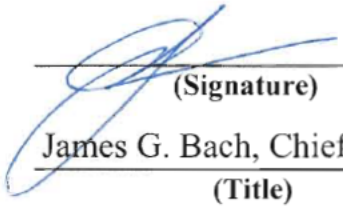
PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation thereof (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Authority website at *http://www.panynj.gov/AbouttthePortAuthority/ContactInformation/foi_policy.html,* not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

The Louis Berger Group, Inc.
(Company)



(Signature)

James G. Bach, Chief Operating Officer
(Title)

01/06/2010
(Date)

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ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

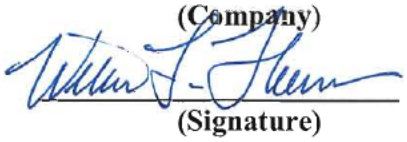
AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation thereof (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Authority website at *http://www.panynj.gov/AbouttthePortAuthority/ContactInformation/foi_policy.html*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Urban Engineers Inc.

(Company)



(Signature)

Sr. Vice President

(Title)

01/12/2010

(Date)

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DO NOT RETYPE.

B. Transmittal Letter

Original

URBAN
A JOINT VENTURE
412 Mount Kemble Avenue • PO Box 1946 • Morristown, NJ 07962-1946

January 14, 2010

The Port Authority of New York and New Jersey
One Madison Avenue
Seventh Floor
New York, NY 10010
Attention: RFP Custodian

RE: Request for Proposals for Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH) (RFP#19980)

Dear Sir/Madam:

In response to the Port Authority of New York and New Jersey (the Authority)'s Request for Proposals for the Performance of Expert Professional Services as Requested on a "Call-In" Basis During 2010 Through 2014 (RFP#19980), **The Louis Berger Group/Urban Engineers, a Joint Venture (LBG/UE Joint Venture)**, is pleased to submit one (1) original, five (5) copies, and one (1) compact disc copy of its proposal for your consideration for Professional Planning, Project Management and Related Services. This proposal is prepared in accordance with the instructions within the Request for Proposals and Addenda #1 and #2.

Together, The Louis Berger Group, Inc. (Berger) and Urban Engineers (Urban) bring more than 100 years of extensive Planning, Project and Program Management experience. LBG/UE Joint Venture is extremely interested and ideally suited to provide these referenced services, based on our current and past work with the Authority. Berger specializes in the delivery of Project Management and Construction Management Services to public agencies in support of both capital and maintenance projects. Urban provides Rail Construction Management as well as a broad range of planning, design and related services for airports, buildings, bridges, highways, railroads, ports, environmental consulting and transit. Our knowledge of the logistics and proven success on projects of such high caliber give us an unsurpassed ability to understand and fulfill the Authority's needs. Our relevant project experience includes the following:

Port Authority of New York and New Jersey
Downtown Restoration Program – Phase 1
Program Management Support Services

Port Authority of New York and New Jersey
Newark-Liberty International Airport (EWR) Redevelopment Program – Phase 2
Program Management Support Services

New Jersey Sports and Exposition Authority
Meadowlands Railroad and Roadway Improvements
Rail Construction Management Services

Coupled with this experience, LBG/UE Joint Venture provides the commitment to deliver a top-notch class of individuals who bring a plethora of capabilities to focus on the project. Berger is comprised of more than 450 employees in the New York Metropolitan Area and is not only one of the largest multidisciplinary consulting organizations in the United States, but also one with a long-standing Project Management relationship with the Authority. Urban has grown to over 450 professionals located in the New York Metropolitan Area and provides Project Management Oversight for clients such as the Federal Transit Administration.

A JOINT VENTURE
412 Mount Kemble Avenue • PO Box 1946 • Morristown, NJ 07962-1946

The LBG/UE Joint Venture will be joined by HNTB for Signals and Communication support. Beginning as a railroad bridge design firm and developing into a multidisciplinary corporation, HNTB has built a strong legacy of delivering total transportation solutions for communities and regions. To that end, the HNTB staff possess a wide range of signal and train control capabilities gained through practical application of all types of signal systems for both private and public clients. The HNTB personnel have extensive experience with automatic block signal systems, centralized traffic control systems, interlockings, simulation (operations simulation and design), "On Track", supervisory control systems, microprocessor-based systems and construction phase services/inspection.

HNTB is currently completing work for a Task Order GEC contract with Amtrak, for which they have provided signal, electric traction/OCS, track design and engineering services for several projects in ACSES territory. Some of the signal projects under this GEC have contained multiple tasks such as the development of new aspect control lines and the design of new track, traffic, routing and other signal circuits.

The LBG/UE Joint Venture team will be led by **Mr. Victor R. Simuoli, P.E.**, who brings extensive experience in project management, with demonstrated experience in successfully managing large-scale and diverse projects from inception through completion. Mr. Simuoli provided technical and Project Management support to the Port Authority as the Systems Program Manager for the design and development of the JFK AirTrain ($1.9 billion project) and is known to Port Authority and PATH senior management. In his role as Project Management Oversight Consultant of the MTA Capital Program for the FTA, Mr. Simuoli was responsible for the oversight of the Communications Based Train Control (CBTC) pilot project on the Canarsie Line. This experience will prove valuable to PATH as it undertakes the upgrade of its signaling system using CBTC technology. In addition, Mr. Simuoli previously served as Director of Engineering at MTA New York City Transit and as a Senior Capital Program Manager at MTA Long Island Bus.

The LBG/UE Joint Venture is also dedicated to fulfilling the M/WBE requirements and, to that end, we are joined by the following firms to meet the Authority's subcontracting participation goals:

- Garg Consulting Services (MBE) – Rail Engineering and Signal Support
- Stellar Services (MBE) – Management Systems, Database Development and Cost Control Support
- Envision Consulting Limited (WBE) – Program Management and Cost Control Support

As requested, this proposal includes all certificates verifying the required relationship between the Authority and the aforementioned subconsultants. We have also included our Joint Venture written agreement, as well as all requested forms and attachments for LBG/UE Joint Venture, such as the respective statements clarifying no conflict of interest and contract exceptions. We would like to thank you in advance for your time and we greatly appreciate your consideration of LBG/UE Joint Venture for this opportunity. We look forward to working with the Port Authority on this Call-In contract. We hope that you will find that this proposal represents a supreme level of quality, experience, responsiveness and effectiveness. Should you have any questions or need additional information, please do not hesitate to contact us using the information below.

Sincerely,

LBG/UE Joint Venture

Jeffery D. Willis
Senior Vice President
THE LOUIS BERGER GROUP, INC.
(973) 407-1000, ext. 2742

William T. Thomsen, P.E.
Senior Vice President
URBAN ENGINEERS
(212) 736-9100

THE PORT AUTHORITY OF NY & NJ

One Madison Avenue
New York, NY 10010

December 22, 2009

SUBJECT: REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP #19980) – ADDENDUM #1

Dear Sir or Madam:

The Port Authority of New York & New Jersey hereby amends the subject Request for Proposal (RFP) letter, dated December 15, as follows:

The following question was received from an RFP recipient(s). The Authority provided the corresponding answer:

Will the completion of the Scope of Services for this contract preclude the consultant from performing work on those upcoming PATH Capital Program contracts for which this contract will be overseeing?

It is not generally anticipated that firm(s) on the resulting call-in list will be precluded from performing work on upcoming PATH contracts. However, as specific tasks are identified, and services provided, the performance of said services may give rise to the appearance of a conflict of interest in relation to subsequent services required as part of PATH's Capital Program, and therefore may result in the preclusion of said firm from performance of such subsequent services.

The due date for receipt of proposals remains 2:00 p.m. on January 14, 2010.

If you have any questions, please contact Ms. Tracy Tiernan at ttiernan@panynj.gov.

Sincerely yours,

Tim Volonakis
Manager
Professional, Technical & Advisory Services Division
Procurement Department

THE PORT AUTHORITY OF NY & NJ

One Madison Avenue
New York, NY 10010

January 11, 2010

SUBJECT: REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP #19980) – ADDENDUM #2

Dear Sir or Madam:

The Port Authority of New York & New Jersey hereby amends the subject Request for Proposal (RFP) letter, dated December 15, as follows:

The following questions were received from an RFP recipient(s). The Authority provided the corresponding answer:

1. Page 1, Item I of the RFP, Proposal Requirements, requires firms to demonstrate the following:

   A. A minimum of five (5) years firm experience in the planning and design of rail transportation facilities.

   B. Firm and proposed senior staff experience with a minimum of three (3) projects, within the past five (5) years, in managing rail capital programs which includes multiple sub-projects valued at more than $50 million construction cost in aggregate.

   Do the projects that we show in our proposal for firm experience need to be the same projects we show for senior staff experience? *No.*

2. Within Section C. Cost, it is stated that "Billing rates for partners and principals expected to work on the project" are required. Do you require salary rates for the entire proposed team? Please confirm.

   In Part III, Section C, replace "2. Billing rates for partners and principals expected to work on the project" with "2. The name(s), title(s) and hourly rate(s) for engineering and technical personnel who will be assigned to perform any services requested. Indicate billing rates for partners or principals and actual hourly pay rates for all other billable employees".

3. The proposal format requirements on the first page state both that the proposal is limited to 25 pages single sided or 35 pages double sided. Which is correct?

   In Part II, Section A, replace "no more than 25 pages-single-sided or 35 pages-double-sided" with "no more than 26 pages-single-side or 13 pages-double-sided".

4. The same paragraph exempts resumes (which would go into Section E) from the page count, however, Section E is not included among the sections specifically exempted from page

limits. (The sections exempted from page limit requirements are A, B, C, H, I, J, K, and L.) Is Section E (and therefore, the resumes) subject to page limits?

The resumes in Section E are exempt from the page count. Any additional information required as part of the consultant's proposal, in Section E, is not exempt.

5. In Section I B of the RFP, the following is stated: "Firm and proposed senior staff experience with a minimum of three (3) projects, within the past five (5) years, in managing rail capital programs which includes multiple sub-projects valued at more than $50 million construction cost in aggregate". Does each senior staff member need to have a minimum three (3) projects within the last 5 years? What if their projects in the last 5 years were as long in duration as 5 years, for example?

   The firm is expected to have a minimum of three (3) projects within the past five (5) years. Proposed senior staff is expected to have a minimum of three (3) projects within the last five (5) years.

6. If submitting as a joint venture, do both firms of the joint venture need to submit a company profile (per Attachment C)? *Yes.*

7. Should sub-consultants complete Attachment C as well as the Prime or Joint Venture firms? *No.*

8. In the Draft Comprehensive Logistics Plan report, it is stated that the demands of the Authority staff include design reviews and approvals. Although the coordination and resource loading of this activity does not appear to be included in the RFP scope description, is this activity to be coordinated by the Consultant as well?

   The Draft Comprehensive Logistics Plan report was provided for information purposes and not as scope. If it is decided that design reviews by the Consultant are required, they would be solicited as an individual task, scoped at that time.

9. Can you provide the name of the firm that prepared the Draft Comprehensive Logistics Plan?

   It is a PATH document. Support in its preparation was provided by AECOM.

10. Assuming this would be a task order contract, for planning/resource purposes, is there a minimum time requirement for each of the key positions specified under "Potential Position Descriptions"? What type of commitment is expected for each role?

    We anticipate that the key positions of Sr. Planning Manager would be filled full-time for the term of the agreement. The Plan and Field Coordinator positions will also, likely, require a long-term commitment for at least one individual each.

11. With regard to the MBE and WBE participation, will a certified M/WBE firm that is part of the Joint Venture firm count towards meeting this requirement?

    Yes

12. Is the Cost Engineer considered to be a Cost Estimator and not a Cost Controller? *Yes.*

13. Should the required "reproducible original" be unbound and not include tabs for easier reproduction? *Yes.*

14. In regard to Section J - Affiliates, is this information required from each firm on the team? *It is required information for the Prime or Joint Venture firms.*

15. When does the Authority plan on awarding this contract?

    Award of an agreement(s) for performance of the contemplated services is anticipated to be in the second quarter of 2010.

16. a. Does PATH intend to qualify more than one consultant for this On-Call assignment? *Yes.*

    b. If so, will each selected consultant be required to compete for tasks when PATH sees the need to implement that specific task? *Yes.*

17. Is Attachment B required from each firm that is part of the submitting team?

    Attachment B is required from the Prime Consultant (not sub-consultants) or all members of the Joint Venture.

18. Can you please clarify how many pages you consider an 11x17 sheet to be? *1 ½.*

The due date for receipt of proposals remains 2:00 p.m. on January 14, 2010.

If you have any questions, please contact Ms. Tracy Tiernan at ttiernan@panynj.gov.

Sincerely yours,

Tim Volonakis
Manager
Professional, Technical & Advisory Services Division
Procurement Department

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT/OWNER REPRESENTATIVE SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2010 THROUGH 2012 (RFP #18965)

1. Company Name (print or type):

   The Louis Berger Group, Inc.

2. Business Address (to receive mail for this RFP):

   Headquarters: 412 Mount Kemble Avenue, PO Box 1946

   Morristown, NJ 07962-1946

3. Business Telephone Number: (973) 407-1000

4. Business Fax Number: (973) 267-6468

5. Firm website: http://louisberger.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 05 / 08 / 1963 (New Jersey)

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   See attached

9. Officer or Principal of Firm and Title:

   D. James Stamatis, P.E., Group Vice President

10. Name, telephone number, and email address of contact for questions:
    Charles (Chuck) King, Vice President, Program and Construction Management

    (973) 407-1663 cfking@louisberger.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

Firm	Corp Address	FEIN	Parent Co	Subsidiary	Affiliate
Ammann & Whitney Consulting Engineers, P.C.	96 Morton Street, New York, NY 10014	[redacted]	☐	☐	☑
Ammann & Whitney, Inc.	96 Morton Street, New York, NY 10014		☐	☐	☑
Berger Devine Yaeger, Inc.	The Uptown Theatre Building; 3700 Broadway, Suite 300; Kansas City, Missouri 64111		☐	☐	☑
Berger Group Holdings, Inc.	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962		☑	☐	☐
Berger Group West, P.C. dba Louis Berger Group, Inc. in CA	7825 Fay Avenue, Ste. 256, La Jolla, CA 92037		☐	☐	☑
Berger Latinoamerica, S.A.	Corrientes 538, 8vo. Piso; 1043 Buenos Aires, Argentina		☐	☑	☐
Berger, Lehman Associates, P.C.	411 Theodore Fremd Ave; Rye, NY 10580		☐	☐	☑
Berger/ABAM Engineers, Inc.	33301 Ninth Avenue South, Ste. 300; Federal Way, WA 98003-2600		☐	☐	☑
Brokonsult AB	Per Sundbergs, Vag 1-3; S-183 63 Taby, Sweden		☐	☐	☑
CHELBI Engineering Consultants, Inc.	Ding 28 Gouzijian St.; An Nei; Beijing 100007, China		☐	☐	☑
Development Economics Group, Inc fka Pavement Profiler, Inc	412 Mount Kemble Avenue, Morristown, NJ 07960	[redacted]	☐	☐	☑
EA Engineering Science and Technology, Inc.	207 East Redwood, Ste 902; Baltimore, Maryland 21202	unknown	☐	☐	☐
ENCO - Consultoria E Servicos, Limitada	Av. Paulo Samuel Kankhomba 622, Maputo, Mozambique	None	☐	☐	☑
ENDER, Inc.	20 Corporate Wood Blvd.; Albany, NY 12211-2370	[redacted]	☐	☐	☑
HBF S.A.S.	55 bis quai de Grenelle Tour Mercure III, 75015 Paris, France	None	☐	☑	☐

Firm	Corp Address	FEIN	Parent Co	Subsidiary	Affiliate
Ingecam S.A.R.L.	B.P. 5009 Nlongkak; Yaounde, Cameroon	None	☐	☐	☑
International Ventures Corporation	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962	[redacted]	☐	☐	☑
Klohn Crippen Berger Holdings, Ltd.	Suite 500; 2955 Virtual Way; Vancouver, BC Canada, V5M 4X6		☐	☐	☑
Klohn Crippen Berger Ltd	Suite 500; 2955 Virtual Way; Vancouver, BC Canada, V5M 4X6		☐	☐	☑
Klohn Leonoff Consultants Ltd.	Suite 500; 2955 Virtual Way; Vancouver, BC V5M 4X6		☐	☐	☑
Louis Berger & Assoc., P.C.	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962		☐	☐	☑
Louis Berger & Assoc., P.C. (a PA Corporation)	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962		☐	☐	☑
Louis Berger & Assoc., P.C. (Mass)	75 Second Avenue; Needham, MA 02154		☐	☐	☑
Louis Berger & Associates (DC), P.C.	2300 N Street, NW; Washington, DC 20037		☐	☐	☑
Louis Berger & Associates R.I., Inc.	295 Promenade St.; Providence, RI 02908		☐	☐	☑
Louis Berger & Associates, Inc. (Illinois)	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962		☐	☐	☑
Louis Berger (Canada) Limited	1668 Barrington St., Suite 500; Halifax, Nova Scotia; Canada, B3J2A2	None	☐	☐	☑
Louis Berger (UK) Limited	103-105 Roberts House; Hammersmith Road; London, W14QH	None	☐	☐	☑
Louis Berger Algerie Sarl	8 Ilot 7 Lotissement Krim Belkacem - Dar el Beida - Algeria	None	☐	☐	☑
Louis Berger Asia Limited fka Louis Berger Finance & Development Company, Ltd. (Hong Kong)	c/o Stevenson, Wong & Lai; Rooms 2002-2004, 20th Flr, Edinburg Tower; The Landmark; 15 Queen's Rd	None	☐	☐	☑

Firm	Corp Address	FEIN	Parent Co	Subsidiary	Affiliate
Louis Berger Bulgaria fka Local Business Consult EOOD	55 Neofit Rilski Street, District Sredetz, Sofia, Bulgaria	None	☐	☐	☑
Louis Berger Consulting Private Limited	D-701 Jhule Lal Apartments Road, #44 Pitam Pura, Delhi-110034, India	None	☐	☑	☐
Louis Berger France SAS fka GEODE (Geston Economie Organisation poiur le Develeppement)	Tour Mercure III-4th floor; 55 bis, quai de Grenelle; 75015 Paris		☐	☐	☑
Louis Berger Holdings, Inc.	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962	[redacted]	☐	☑	☐
Louis Berger Incorporated, Nigeria	110 Lewis St.; 6th Floor; Lagos, Nigeria	None	☐	☐	☑
Louis Berger International, Inc., Korea	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962	[redacted]	☐	☑	☐
Louis Berger Nevada, Inc.	500 Amigo Court, Ste. 100, Las Vegas, NV 89119	[redacted]	☐	☐	☑
Louis Berger Romania fka Dinamic SRL	Macedonia Street No. 24, Apt. 1, Bucharest, Romania	None	☐	☐	☑
Louis Berger Route Yaounde S.A.R.L	B.P. 5009-Nlongkak; Yaounde, Cameron	None	☐	☐	☑
Louis Berger S.A.S. fka Louis Berger S.A.	Tour Mercure III-4th floor; 55 bis, quai de Grenelle; 75015 Paris	None	☐	☐	☑
Northern Fidelity Insurance Company	P.O. Box 1179, Hamilton, HM EX, Bermuda	None	☐	☐	☑
The Louis Berger Group (Domestic), Inc. fka Louis Berger & Associates, Inc.	412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962	[redacted]	☐	☑	☐
The Louis Berger Group Phils., Inc. fka Louis Berger International, Inc.	TM-8910 Milelong Center; Amorsolo sor Herrera Streets; Legaspi Village; Makati City, Philippines	None	☐	☐	☑
The Louis Berger Group, Inc., F.S.C. (Virgin Island)	5 Kronprindsens Gade; P.O. Box 8560; Charlotte Amalie; St. Thomas, U.S. Virgin Islands 00801	[redacted]	☐	☐	☑
The RBA Group Inc., Engineers, Architects and Planners	One Evergreen Place, Morristown, NJ 07962-1927		☐	☐	☑

Firm	Corp Address	FEIN	Parent Co	Subsidiary	Affiliate
Urban Engineering Systems, Ltd. fka SeaConsult Ltd (Thailand)	10th Flr. Q House Convent Building; 38 Convent RD., Silom Bangkok 10500 Thailand	None	☐	☐	☑
Wuhan Louis Berger Tech. Engineering Co., Ltd.	37, Qingshanzheng Street, Qingshan District, Wuhan, China	None	☐	☑	☐

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 2010 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP 19980)

1. Company Name (print or type):

   Urban Engineers of New York, P.C.

2. Business Address (to receive mail for this RFP):

   350 5th Avenue, Suite 6024, New York, NY 10118

3. Business Telephone Number: 212-736-9100

4. Business Fax Number: 212-736-9101

5. Firm website: www.urbanengineers.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 01/01/1973

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   See Attached document

9. Officer or Principal of Firm and Title:

   William T. Thomsen, P.E., Senior Vice President

10. Name, telephone number, and email address of contact for questions:
    William T. Thomsen, P.E., , 212-736-9100 O., [redacted] C.,

    wtthomsen@urbanengineers.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes X No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/DoingBusinessWith/economic/html/objo.html to receive information and apply for certification.

URBAN
A JOINT VENTURE

Professional Planning, Project Management and Related Services
Requested on a "Call-In" Basis During 2010 Through 2014

January 14, 2010

Mr. Tim Volonakis
Manager, Professional, Technical and Advisory Services Division
Procurement Department
The Port Authority of New York and New Jersey
One Madison Avenue
New York, NY 10010

RE: Joint Venture Letter Agreement
RFP # 19980 - The Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis during 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH)

Dear Mr. Volonakis:

The purpose of this letter is to confirm the intent of **The Louis Berger Group, Inc. (Berger) and Urban Engineers**, to enter into a formal Joint Venture agreement (JV) named **The Louis Berger Group/Urban Engineers, a Joint Venture (LBG/UE Joint Venture)**. The lead JV partner is The Louis Berger Group. The JV partners intend to split responsibilities and associated revenue (including profit) as mutually agreed by the JV partners for the above referenced Port Authority of New York and New Jersey- PATH project. Should we be awarded the subject contract, we will execute a formal JV agreement. Both JV firms will provide insurance requirements satisfying the contractual requirements as outlined in the RFP.

We understand PATH is establishing a Logistics Planning Group to oversee the coordination of the PATH Capital Program, a five (5)-year capital-funded Construction Program that includes World Trade Center PATH related projects, Security Program, New Cars and Signals, Station Modifications, State of Good Repair Work and Platform Extensions for 10 Car Trains. We understand PATH seeks a Planning and Program Manager to assist the Logistics Planning Group. It is our intention to pursue this contract and serve PANYNJ- PATH as a JV.

Sincerely,

LBG/UE JOINT VENTURE

Jeffery D. Willis
Senior Vice President
THE LOUIS BERGER GROUP, INC.
(973) 407-1000, ext. 2742

William T. Thomsen, P.E.
Senior Vice President
URBAN ENGINEERS
(212)736-9100

Original

URBAN
A JOINT VENTURE

Professional Planning, Project Management and Related Services
Requested on a "Call-In" Basis During 2010 Through 2014

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(973) 407-1000, ext. 2742

William T. Thomsen, P.E.
Senior Vice President
URBAN ENGINEERS
(212)736-9100

C. Cost

C. Cost – Multipliers

The following sheets present the billing rates for all JV and subconsultant personnel that are anticipated to be assigned to the program. Multipliers for personnel assigned full-time to the PATH facility will utilize a field overhead. Any personnel working from the home offices, with the approval of PATH, will be billed at a rate determined using the home office overhead.

These actual employee salary rates shown in the cost sheets are for FY2010. For future years, the employee salary rates for the JV and our subconsultants shall be escalated as an incentive for good performance and valuable service. Each subsequent year, we will request salary modifications, and with the approval of the Port Authority of New York and New Jersey, the salaries will be escalated per industry standard practice.

Salary Multiplier for Project Staff

The proposed multiplier for this Home Office staff working on this project is **2.64**. The following is a derivation of the salary multiplier based on The Louis Berger Group, Inc.'s most recent Overhead Rate.

DERIVATION OF OFFICE SALARY MULTIPLIER

Base Salary	1.00
Overhead Rate (Audited)	1.4068
Total	2.4068
Profit at 10%	0.24
Total	**2.64**

The proposed multiplier for personnel working in the PATH offices for this project is **2.19**. The following is a derivation of the field overhead salary multiplier based on The Louis Berger Group, Inc.'s Overhead Rate. We have recently derived a field overhead rate of 114% for LBG field operations. As an incentive to PATH we are discounting this rate to 99% as shown in the derivation below.

DERIVATION OF FIELD SALARY MULTIPLIER

Base Salary	1.00
Overhead Rate (Audited)*	0.99
Total	1.99
Profit at 10%	0.20
Total	**2.19**

*The Louis Berger Group, Inc. Overhead Audited Rate is 1.1407. For purpose of this project for the Authority, The Louis Berger Group, Inc. has discounted the Overhead rate to 0.99 for Field work only.

Our Joint Venture partner, **Urban Engineers**, will bill at the same multiplier for Field personnel. Their Office Multiplier will be an overhead rate of %140.72 with a 10% Profit = 2.64792 or 2.65.

Subconsultants	Office	Field
HNTB	**2.75**	**2.23**
Stellar	**1.50**	**1.50**
Garg	**1.17**	**1.05**
Envision	**1.41**	**1.07**

Hourly Rates/Billing Rates of Proposed Personnel

Charles "Chuck" King	Project Executive	Project Planning/Management	LBG	$110.58	2.64	$291.93
Connie Crawford	Program Technical Advisor	Project Planning/Management	LBG	$108.17	2.64	$285.57
Paul DeMeo	Project Management Systems Specialist	Project Planning/Management	LBG	$103.37	2.64	$272.90
Dan Mesnick	Planning Coordinator	Project Planning/Management	LBG	$69.71	2.19	$152.66
Jim Murray	Planning Coordinator	Project Planning/Management	LBG	$68.96	2.19	$151.02
Dave Puza	Constructability Consultant	Project Planning/Management	LBG	$100.00	2.64	$264.00
Joi Koenig	Cost Control Engineer	Project Planning/Management	LBG	$46.50	2.19	$101.84
Jody Williams	Scheduler	Project Planning/Management	LBG	$36.78	2.19	$80.55
Swadeep Rachoor	Scheduler	Project Planning/Management	LBG	$28.85	2.19	$63.18
Vadim Akopyan	SharePoint Technician	Project Planning/Management	LBG	$40.87	2.64	$107.90
Madan Gambhir	Project Manager	Project Planning/Management	Garg	$60.00	2.39	$143.40
Paul Goodwin	Structural Engineer	Project Planning/Management	Garg	$39.75	2.39	$95.00
David Ordas	Track Engineer	Project Planning/Management	Garg	$50.00	2.39	$119.50
Paul Rudderow	Senior Scheduler / Claims Consultant	Project Planning/Management	Envision	$58.04	2.65	$153.81
Steve Malaszecki	Senior Scheduler / Claims Consultant	Project Planning/Management	Envision	$66.26	2.65	$175.59
Stanley Wiecik	Field Coordinator	Project Planning/Management	HNTB	$60.80	2.23	$135.58
Thomas Bessoir	Planning Coordinator	Project Planning/Management	HNTB	$66.32	2.75	$182.38
Simon Reich	Field Coordinator	Project Planning/Management	HNTB	$76.56	2.23	$170.73
M. Mahmudul Bari	Planning Coordinator	Project Planning/Management	HNTB	$55.92	2.75	$153.78
Peter Lloyd	Planning Coordinator	Project Planning/Management	HNTB	$63.12	2.75	$173.58
Chet Kaspszak	Field Coordinator	Project Planning/Management	HNTB	$60.16	2.23	$134.16

Vaginia Guzman	Scheduler	Project Planning/Management	Stellar	$38.65	2.3	$88.90
Hao Jiang	Cost Engineer	Project Planning/Management	Stellar	$31.95	2.3	$73.49
Onna Kong	Field Coordinator	Project Planning/Management	Stellar	$28.95	2.3	$66.59
Rozaliya Kiperman	Deliverable Manager	Project Planning/Management	Stellar	$50.22	2.3	$115.51
Arthur Huang	Web Master / SharePoint Specialist	Project Planning/Management	Stellar	$49.04	2.3	$112.79
Mike Zheng	Web Master / SharePoint Specialist	Project Planning/Management	Stellar	$38.33	2.3	$88.16
Victor Simuoli	Senior Planning Manager	Project Planning/Management	Urban	$93.00	2.19	$203.67
Richard Hill	Field Coordinator	Project Planning/Management	Urban	$81.00	2.19	$177.39
John Groses, Jr.	Field Coordinator	Project Planning/Management	Urban	$50.00	2.19	$109.50
Michael Dunn	Planning Coordinator	Project Planning/Management	Urban	$70.00	2.19	$153.30
R. Wahadi Bangura	Field Coordinator	Project Planning/Management	Urban	$60.00	2.19	$131.40
William Kroth	Field Coordinator	Project Planning/Management	Urban	$65.00	2.19	$142.35
Sita Mohan	Field Coordinator	Project Planning/Management	Urban	$40.00	2.19	$87.60
Joseph Mongillo,Sr.	Field Coordinator	Project Planning/Management	Urban	$55.00	2.19	$120.45
Joseph O'Haire, Sr.	Field Coordinator	Project Planning/Management	Urban	$45.00	2.19	$98.55
Franklin Teifeld	Field Coordinator	Project Planning/Management	Urban	$55.00	2.19	$120.45

DRAFT

The Louis Berger Group, Inc.
Summary of Overhead Expense Rate
Domestic Segment
Fiscal Year 2009

Schedule D

For use on U.S. Federal, State and Local Government Contracts

	Benefits all Direct Labor	Benefits only Employee Direct Labor	Occupancy / Facility / IT Expense Rate	Reference
Total Expense Pool	33,316,646	15,345,034	9,167,494	Sched D-1
Direct Labor	42,666,956	42,643,093	31,619,458	Sched D-1
Incremental Expense Rates	78.09%	35.98%	28.99%	

Overhead Expense Rates

	Home Office		Field Office
	Employees	Project Consultants	Employees
General Overhead Costs	78.09%	78.09%	78.09%
General Overhead Costs only applicable to Home Office Work	28.99%	28.99%	
Total Fringe Benefits	35.98%		35.98%
Total Overhead and Fringe Costs	**143.06%**	**107.08%**	**114.07%**

DRAFT

The Louis Berger Group, Inc.
Overhead Expense Pool and Allocation Base Calculation
Domestic Segment
Fiscal Year 2009

Schedule D-1

For use on U.S. Federal, State and Local Government Contracts

	GL Balances	Adjustments						Functional Allocations								Indirect Expenses	Occupancy / Facility	Computer / IT	Distribution of Adjusted Total		
	Domestic Divisions	Elimination - IT, DCAS, GIS, Audit [1]	Reclassification - Contract Administration [2]	Reclassification - TSC [3]	Unallowable Costs [4]	FY09 Domestic State Income Tax Expense [5]	Subtotal	Corporate (Client) Audit	Human Resources	IT	DCAS	TSC	GIS Allocation for CJH and CXH	Residual	Adjusted Total				Project Consultant and Employee Direct Labor	Only Employee Direct Labor [7]	Total Distribution
Expense Pool																					
Salaries	14,774,471	-	123,126	2,325	-	-	14,899,923	-	-	-	-	-	-	-	14,899,923	14,899,923	-	-	14,899,923	-	14,899,923
Payroll Additives	11,917,354	-	35,307	378	-	-	11,953,039	-	-	-	-	-	-	-	11,953,039	11,953,039	-	-	-	11,953,039	11,953,039
Group Insurance	3,362,484	-	7,441	115	-	-	3,370,040	-	-	-	-	-	-	-	3,370,040	3,370,040	-	-	-	3,370,040	3,370,040
Miscellaneous Benefits	123,911	-	-	0	(101,956)	-	21,955	-	-	-	-	-	-	-	21,955	21,955	-	-	-	21,955	21,955
Short Term Consultants	28,159	-	-	54	-	-	28,213	-	-	-	-	-	-	-	28,213	28,213	-	-	28,213	-	28,213
Travel and Lodging	1,633,280	-	-	149	(538,794)	-	1,094,635	-	-	-	-	-	-	-	1,094,635	1,094,635	-	-	1,094,635	-	1,094,635
Printing / Reproduction / Brochures / Reports	469,114	-	22	33	(31,952)	-	467,216	-	-	-	-	-	-	-	467,216	284,256	201,835	1,125	467,216	-	467,216
Stationery and Office Expenses	1,226,505	-	1,668	136	(124,093)	-	1,104,216	-	-	-	-	-	-	-	1,104,216	279,941	354,043	479,233	1,104,216	-	1,104,216
Maintenance	455,654	-	32	2	-	-	455,688	-	-	-	-	-	-	-	455,688	367,486	88,202	-	455,688	-	455,688
Purchased Services	1,417,675	-	5,216	187	(302,675)	-	1,120,503	-	-	-	-	-	-	-	1,120,503	1,045,845	66,196	8,562	1,120,503	-	1,120,503
Communications and Utilities	956,651	-	1,835	148	-	-	958,634	-	-	-	-	-	-	-	958,634	(0)	944,853	13,781	958,634	-	958,634
Office and Equipment Rental	3,246,317	-	4,990	333	-	-	3,251,640	-	-	-	-	-	-	-	3,251,640	109,742	3,141,898	-	3,251,640	-	3,251,640
Depreciation	453,518	-	1,053	23	-	-	454,595	-	-	-	-	-	-	-	454,595	133,404	113,475	207,716	454,595	-	454,595
Insurance	1,530,671	-	-	29	-	-	1,530,700	-	-	-	-	-	-	-	1,530,700	1,530,700	-	-	1,530,700	-	1,530,700
Taxes	14,400	-	-	-	-	206,598	220,998	-	-	-	-	-	-	-	220,998	200,102	20,896	-	220,998	-	220,998
Miscellaneous	7,618,716	(3,338,263)	-	688	(115,754)	-	4,365,399	-	-	-	-	-	-	-	4,365,399	3,634,973	730,122	303	4,365,399	-	4,365,399
Corporate Allocations	-	-	-	-	-	-	-	177,386	388,043	2,795,165	431,972	36,364	56,486	8,647,275	12,531,782	9,736,627	-	2,795,155	12,531,782	-	12,531,782
Total Overhead	**48,459,179**	**(3,338,263)**	**180,892**	**4,600**	**(1,215,424)**	**206,598**	**45,297,582**	**177,386**	**388,043**	**2,795,165**	**431,972**	**36,364**	**56,486**	**8,647,275**	**57,828,176**	**48,661,680**	**5,661,520**	**3,505,974**	**42,494,141**	**15,345,034**	**57,829,176**
	Sched D-2		Sched J	Sched M	Sched N	(Tab 4, wp 4-13)		Sched E	Sched E	Sched E	Sched E	Sched E	Sched E	Sched D-2		(to Sched B)	(to Sched D-2)	(to Sched D-2)	(to Sched D)	(to Sched D)	

Allocation Base

Total Employee Direct Labor (Sched Y-2)	42,646,901	
Adjustment - Employee Direct Labor [6] (Sched J)	(3,807)	
Total Adjusted Employee Direct Labor	42,643,093	(to Sched D)
Project Consultants (Sched Y-2)	23,863	
Total Adjusted Direct Labor	**42,666,956**	(to Sched D)

Field Allocation Base

Total Domestic Direct Labor - Archaeology	2,531,011	(to Sched D, D-3)
Total Domestic Direct Labor - Augmentation	8,516,487	(to Sched D, D-3)

Notes

[1] Elimination of general ledger allocations:

GIS Allocation in Domestic	85,925
DCAS Allocation in Domestic	677,406
IT Allocation in Domestic	2,522,972
Audit Allocation in Domestic	51,947
	3,338,263 (Binder Ref 03-08-F1)

[2] Salary and burden (A. Jimenez & reclass of direct charged labor) not previously reclassified from division AA expense (Tab 4, wp 4-3)

[3] Correction of miscodings of salary, burden and non-labor expense for charges to divisions BB, BX and FX (Tab 4, wp 4-8)

[4] Unallowable costs in accordance with FAR Subpart 31.2

[5] FY09 State Income Tax Expense for C Company (Tab 4, wp 4-12)

[6] Correction of miscodings of travel expenses for charges to division AA (Tab 4, wp 4-16)

[7] Allocation limited to fringe benefits

[8] Reclassification of contract administration labor previously charged as direct (Tab 4, wp 4-2)

URBAN ENGINEERS, INC.
Summary of Indirect Overhead Expenses
For the Year Ended December 31, 2008

Account Title	DESIGN Amount	DESIGN Percentage	FIELD Amount	FIELD Percentage
DIRECT LABOR	$ 12,322,829	100.00%	$ 3,110,402	100.00%
FRINGE BENEFITS ON SALARIES:				
Benefit Overhead Payroll	2,505,457	20.33%	473,064	15.21%
Payroll Taxes	1,680,877	13.64%	358,527	11.53%
Insurance - Employee Benefits	1,370,584	11.12%	292,342	9.40%
ESOP Contribution	364,360	2.96%	77,717	2.50%
401k Employer Match & Maintenance	245,797	1.99%	52,428	1.69%
Total Fringe Benefits On Payroll	6,167,075	50.04%	1,254,078	40.33%
OTHER EXPENSES:				
Overhead Salaries	6,260,448	50.80%	1,037,339	33.35%
Rent - Building Maintenance & Utilities	1,492,354	12.11%	76,893	2.47%
Auto - Travel, Leasing, Gas, Repairs & Maintenance	634,770	5.15%	36,692	1.18%
Depreciation	213,540	1.73%	12,023	0.39%
Supplies & Postage	295,351	2.40%	18,712	0.60%
Supplies - Engineering & Reproduction	106,633	0.87%	1,770	0.06%
Professional Services	294,196	2.39%	74,240	2.39%
Taxes - Other than Income	185,501	1.51%	23,348	0.75%
Equipment Rental - Repairs & Maintenance	216,618	1.76%	12,196	0.39%
Telephone	226,204	1.84%	12,735	0.41%
Meals & Entertainment	103,073	0.84%	6,571	0.21%
Dues - Subscriptions & Professional Licenses	192,276	1.56%	10,825	0.35%
Insurance - Professional Liability & Other **[Adjusted for OCIP]**	391,615	3.18%	63,728	2.05%
Tuition	91,917	0.75%	5,175	0.17%
Software Fees & Maintenance	177,943	1.44%	10,018	0.32%
Recruiting	83,258	0.68%	21,010	0.68%
Employee Relations	76,586	0.62%	4,312	0.14%
Conferences	120,935	0.98%	30,518	0.98%
Bids & Proposals	10,759	0.07%	2,715	0.07%
Total Other Indirect Expenses	11,173,977	90.68%	1,460,820	46.96%
Total Allowable Overhead Expenses	$ 17,341,052		$ 2,714,898	
Design Overhead Rate		**140.72%**		
Field Overhead Rate				**87.28%**

I certify that the above schedule is a condensed summary of direct and indirect cost of the Company for the year ended December 31, 2008. The costs have been audited by our Certified Public Accountants in accordance with Federal Acquisition Regulations. A copy of the audit report is available upon request.

Bernard Carolan

Bernard M. Carolan, Controller

Billing Rates for Proposed Staff

Name	Rate
Stanley Wiecik	$60.80
Thomas Bessoir	$66.32
Simon Reich	$76.56
M. Mahmudul Bari	$55.92
Peter Lloyd	$63.12
Chet Kaspszak	$60.16

	Office	Field
Labor	1.00	1.00
Proposed Contract Overhead	1.53	1.05
Sub-Total	2.53	2.05
Profit (9%)	0.22	0.18
Total	2.75	2.23

4U Services, Inc.
d/b/a STELLAR SERVICES

STATEMENT OF DIRECT LABOR, BURDEN AND GENERAL OVERHEAD EXPENSES

Year ended December 31, 2008

	Costs Presented	Adjustments	Foot-notes	Adjusted Costs	% of Direct Labor
Direct labor base	$ 3,240,979	$ -		$ 3,240,979	
Burden and Fringe Costs					
Vacation, holiday and sick pay	$ 461,249			$ 461,249	
Payroll taxes	390,735			390,735	
401(k) plan employer match	208,881			208,881	
Group insurance	316,464			316,464	
Total Burden and Fringes	**1,377,329**			**1,377,329**	**42.50%**
Overhead					
Officer's salary	322,045			322,045	
Indirect salary	1,634,813			1,634,813	
Insurance	50,293			50,293	
Rent	341,158	(8,737)	1	332,421	
Office expenses	100,344	(7,058)	1	93,286	
Telephone, internet and utilities	61,615			61,615	
Legal fees	4,142			4,142	
Accounting fees	29,721			29,721	
Membership/professional development	12,839			12,839	
Outside services	532,928			532,928	
Bids and proposals	585			585	
Marketing and business development	11,145			11,145	
Dues, licenses and permits	50,557			50,557	
Depreciation and amortization	50,029			50,029	
Repairs	10,956			10,956	
Taxes	26,564	(20,000)	2	6,564	
Payroll service	904			904	
Postage and delivery	7,503			7,503	
Auto, travel and meals	223,339			223,339	
Recruiting	40,092			40,092	
Training	15,186			15,186	
Contributions	16,165	(1,850)	1	14,315	
Total Overhead Cost	**3,542,923**	**(37,645)**		**3,505,278**	**108.15%**
Total Burden, Fringe and Overhead Costs	**$ 4,920,252**	**$ (37,645)**		**$ 4,882,607**	**150.65%**

1 - Unallowable costs per FAR 31.205
2 - GAAP adjustment for deferred taxes

See auditor's report.

D - MULTIPLIER'S COMPONENTS

The following are the multiplier components for Garg Consulting Services, Inc. for the year 2008.

	Home	Field
A. FRINGE BENEFITS	**40.59%**	**40.59%**
Payroll Taxes		
Salary Adjustment / Bonus		
Vacation/Holiday/Sick		
Group Life Insurance		
Group Health Insurance		
S-T Disability		
401K Match Contribution		
Relocation Expenses		
B. GENERAL OVERHEAD	**76.58%**	**59.88%**
Indirect Payroll – Principals		
Indirect Payroll – Employees		
Professional Liability Insurance		
401K Administration Expenses		
Auto Insurance		
Business Insurance		
Property Tax		
Legal and Accounting Fees		
Engineering Supplies		
Admin Equipment Operations Lease		
Bank and Payroll Service Charges		
Rent		
Cleaning		
Repairs		
Office Supplies		
Computer Supplies		
Tech/Field Supplies		
Recruitment		
Telephone		
Utilities		
Dues and Publications		
Licenses		
Misc. Expenses		
Postage/Shipping		
Auto/Travel		
Seminars/Professional Education		
Depreciation		
State Corp. Income Tax		
Workers Compensation Insurance		
Facility Cap Cost		
C. PROFIT	**10%**	**10%**

Envision Consultants, Ltd.

Overhead Schedule

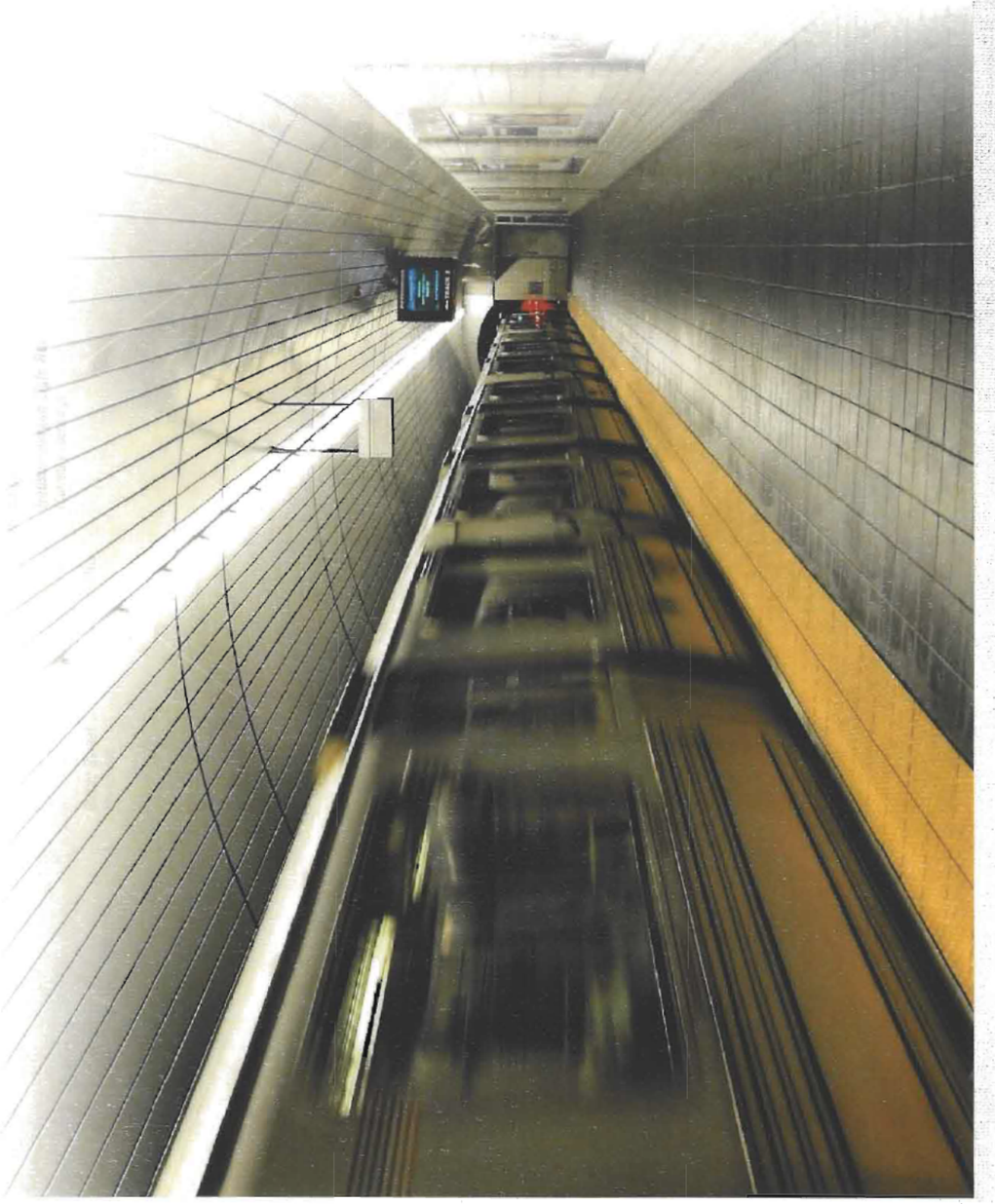
January 2008 through December 2008

Account #	Description	Financial Statement Expense	Unallowable Expense	FAR Ref	Total Proposed	Home Office Costs	Field Office Costs
5-6000	Direct Labor	$751,981			$751,981	$345,774	$406,207
6-1005	Subcontractor	$55,000	-$55,000	(1)	$0	$0	$0
Total Direct Labor		**$806,981**			**$751,981**	**$345,774**	**$406,207**
Fringe Benefits							
6-0010	Vac/Sick/Holiday	$109,624			$109,624	$60,110	$49,514
6-5120	Payroll Taxes	$88,988			$88,988	$45,617	$43,371
6-5200	Group Insurance	$99,541			$99,541	$53,469	$46,072
6-0000	Seminars/Education	$4,120			$4,120	$2,821	$1,299
Total Fringe Benefits		**$302,273**			**$302,273**	**$162,017**	**$140,256**
General Overhead							
6-5110	Non-Project Labor	$267,995			$267,995	$131,318	$136,677
6-1072	Professional Fees	$33,871			$33,871	$17,613	$16,258
6-1650	Contributions	$11,402	-$11,402	(2)	$0	$0	$0
6-1050	Postage	$2,313			$2,313	$2,313	$0
6-1055	Delivery Expense	$3,251			$3,251	$1,691	$1.560
6-1060	Office Supplies	$25,191			$25,191	$13,099	$12,092
6-1092	Computer/Printer	$3,910			$3,910	$2,033	$1,877
6-1065	Reproduction Costs	$9,243			$9,243	$4,806	$4,437
6-1070	Dues & Subscriptions	$265			$265	$138	$127
6-1016	Professional Seminars	$44,689			$44,689	$23,238	$21,451
6-1015	Professional Memberships	$6,272			$6,272	$3,261	$3,011
6-1030	Depreciation	$38,970			$38,970	$20,264	$18,706
5-4020	Software Education Manuals	$0			$0	$0	$0
6-1915	Taxes/Other Payroll Expenses	$2,202			$2,202	$1,145	$1,057
6-1086	Telephone	$18,585			$18,585	$9,664	$8,921
6-5172	Retirement	$24,192			$24,192	$12,580	$11,612
6-1110	Advertising	$38,807	-$38,807	(3)	$0	$0	$0
6-1105	Marketing	$1,453	-$1,453	(4)	$0	$0	$0
6-2000	Automobile	$76,583	-$22,406	(5)	$54,177	$28,172	$26,005
6-2100	Meals/Travel	$29,638	-$20,156	(5)	$9,482	$4,931	$4,551
6-2020	Office Repairs & Maintenance	$1,928			$1,928	$1,928	$0
6-4060	Utilities	$1,627			$1,627	$1,627	$0
6-4010	Office Costs (Rent)	$20,000			$20,000	$20,000	$0
6-6110	General Liability/Auto Insurance	$54,579			$54,579	$28,381	$26,198
5-4005	Software Certification	$29,493	-$29,493		$0	$0	$0
9-1020	Bad Debt	$10,325	-$10,325	(6)	$0	$0	$0
6-3015	Interest Expense	$780	-$780	(7)	$0	$0	$0
Total General Overhead		**$757,564**	**-$189,822**		**$622,742**	**$328,202**	**$294,539**
Total Indirect Costs		**$1,059,837**			**$925,015**	**$490,219**	**$434,795**
Percent of Direct Labor		131.33%			123.01%	141.77%	107.04%
Total Operating Expenses							

FAR Footnotes

(1) 31.202 - Direct Costs - Subcontractor Labor "Contract or Purchased Labor"
(2) 31.2058 - Contributions or Donations except as provided in 31.205 (1) (e) (3)
(3) 31.205.38 - Public Relations & Advertising Costs "Selling Costs"
(4) 31.20514 - Entertainment Costs
(5) 31.205.46 - Travel Expenses
(6) 31.20.3 Bad Debt
(7) 31.205.20 - Interest and Other Financial Costs

D. Firm Qualifications & Experience



D. Firm Qualifications & Experience

LBG/UE Joint Venture

The LBG/UE Joint Venture is a uniquely crafted partnership for the performance of services for the Authority's Request for Proposals # 19980. LBG/UE Joint Venture is comprised of The Louis Berger Group, Inc. (Berger) and Urban Engineers (Urban), two firms that bring to together more than 100 years of experience. The LBG/UE Joint Venture collaborated with established firms on a subcontracted basis to provide the Authority with the best Planning and Project Management team possible. Enhancing the LBG/UE Joint Venture as its subconsultants are Envision Consultants, LTD. (WBE), Garg Consulting Services (MBE), Stellar Services (MBE) and HNTB Engineering & Architecture, P.C. (HNTB).

World Trade Center Reconstruction
Port Authority of NY & NJ

The Port Authority Trans-Hudson (PATH) Commuter Rail System was a key component of the transportation infrastructure of the New York Metropolitan Area, and particularly important to the economy of Lower Manhattan. One of its two terminus point in Lower Manhattan was eliminated by the events of September 11, 2001. In an effort to restore this service, the Authority (PANYNJ) embarked on an extremely "fast track" program to: construct a Temporary PATH Station at the site of the former World Trade Center (WTC); restore the two miles of tunnels beneath the Hudson River connecting this terminal with New Jersey; and improve the first station in New Jersey, Exchange Place Station, to operate as an interim terminal and handle the size trains needed to provide the level of service required by this key rail artery.

Berger provided program management support; program and project level cost, schedule and scope control; program definition; management of in-house staff; coordination of PEER review by national rail experts; validation review of the signal technology with heavy rail signal experts; system integration; development of Work

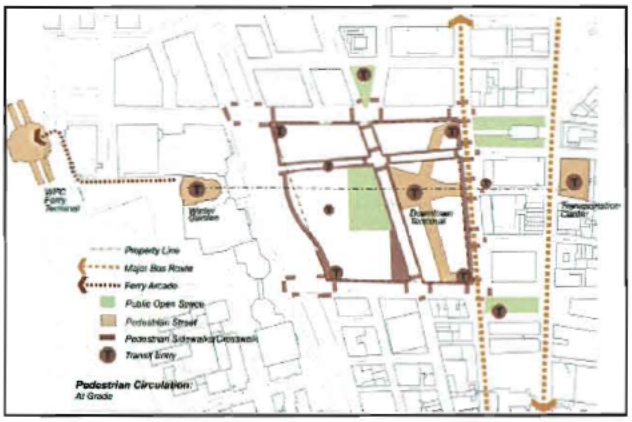
Breakdown and Charge Code Structures; coordination with FEMA, FTA and other state and federal agencies; program and project level CPM scheduling and Earned Value Analysis; actual expenditure and accruals monitoring and audit; problem resolution analysis; database application development; public relations, including a program animation and public website; management presentation, technical paper and press release preparation; status / progress report preparation; constructability reviews, including 4D construction schedule analysis; schedule risk analysis; submittal and RFI tracking / monitoring using Expedition; electronic document / records / information management; and implementation of engineering

technologies for information management and team communication / collaboration. In addition to these three major projects, Berger also provided diverse management and technical support of concurrent projects involving the WTC site, including: WTC site master planning; Lower Manhattan transportation studies; environmental analysis and documentation; WTC site management (street, sidewalk and pedestrian bridge improvements); and general WTC site works (on-site structural work, slurry wall repair, etc).

Rehabilitation of Tunnels E and F: Due to flooding following the September 11th attacks, the project required the demolition and removal of the entire infrastructure, track work and systems within the tunnels, and restoration of all cables and wires, tracks, lighting, drainage, fire protection, and signal and communication systems. Nearly 20 miles of cables (including high voltage, traction power, communications and signal) and over four miles of track were replaced.

Exchange Place Station Improvements: The project scope included construction of several cross-tunnels to connect the existing five tunnels and allow installation of track crossovers to connect the tracks serving Exchange Place Station and the replacement of an existing signal relay room in the way of the proposed connecting tracks. In addition to the new tunnel crossovers, the Exchange Place Station platforms were lengthened to accommodate 10-car trains, increasing commuter capacity from its earlier 8-car train design. Additionally, the Station was completely refurbished, including vertical circulation, lighting, wayfaring signage, floors and finishes, and utilities and systems.

Temporary WTC PATH Station: The design and construction of a Temporary WTC PATH Station, including a track and platform configuration similar to the former WTC station, was planned to ensure restoration of PATH service to Lower Manhattan within 24 months. The Station has a mezzanine (with fare control area) above the platforms, with stair and elevator access connecting the two levels. From the mezzanine, passengers follow the previous circulation route to escalators/elevators/stairs which provide access up to street level under a new canopied plaza on the west side of Church Street. Through an "open-to-air" design with minimal exterior walls, the temporary station features semi-opaque fabric enclosures to provide protection from both inclement weather and the anticipated construction at the surrounding site.



Contact:
Mark Pagliettini, Assistant Director,
World Trade Center Construction, PANYNJ, (212) 435-5531

Newark Liberty International Airport (EWR) Redevelopment Program
Port Authority of NY & NJ

Project Scope:
- Terminal and Frontages
- Control Center
- Roadways and Bridges
- Aircraft Parking and Taxiways

Berger Responsibil ties:
- Development of Policies and Procedures
- CPM Scheduling and Earned Value Analysis
- Project Cost Management, including related integration with over-arching Program level capital budgeting and financial management
- Management of Invoice and Payments processes
- Document Management – electronic and paper, and the handling of Confidential and Privileged project information
- Progress / Performance Reports and Presentations for Internal/External Communications
- Custom IT application development and support

For nearly 20 years, starting in 1990, Berger has provided **Program Management services for the Newark Liberty Airport Redevelopment Program** (EG245A). During this time Berger managed planning, design and construction phases of three separate expansion and improvement programs which included the Monorail, Parking Garages, International Terminal, Administration Building, Taxiway Expansions, and Access Roadway and Bridge Improvements.

Project Background:

During the past decade, passenger growth at Newark International Airport has risen by more than 35% to 34 million. In response, the Authority has begun an ambitious redevelopment program to provide more parking, easier access to and around the airport, and better terminal facilities. The program is being accomplished in conjunction with the Continental Airlines Global Gateway Project at Terminal C, the extension of the Monorail to NJ Transit and Amtrak rail lines, improvements to all terminals, and a new control tower being constructed by the FAA. Most projects, including the parking garages, the Terminal C expansion, the Monorail extension, and many other terminal improvements, were completed during 2001, with the balance of work phased through 2004.

PARKING - The Program provides thousands of additional, conveniently located, parking spaces at two locations: A 6-level structure, adjacent to Monorail Station E, which is accessible directly from I-78. It features easy access to all airline terminals via the Monorail, as well as an expanded valet parking service. A 4-level structure in front of Terminal C has direct pedestrian access to Terminal C.

ROADWAYS AND FRONTAGES: The airport entrance was expanded, as were roadways leading to the Monorail stations and rental car facilities. A new multi-lane, grade level roadway, passing directly in front of all terminals, provides direct access to hourly and daily parking, and to the new parking garage at Terminal C. Commercial vehicles also use this roadway for pick-up and drop-off, and have three special lanes at Terminal C. Private vehicles reach the new at-grade five-lane arrivals level at Terminal C via a new ramp. Passengers for departing flights are able to use both the second and third levels; passengers on arriving flights claim baggage on the ground level, which is served by a new 5-lane road for private cars. The second level departures roadway was expanded to four lanes. To alleviate the traffic back-ups common during peak travel hours, cars are separated from buses and other commercial traffic. The roadways and bridges connecting the airport entrance with NJ Turnpike Interchange 13A, Routes 1&9, and I-78 were also improved. Phase 1 of the project included the addition of a new ramp and bridge at the airport entrance, the widening of Brewster Road near the entrance, and the construction of new roadways south of the airport. During Phase 2, a new fly-over was built on North Avenue, and a new ramp was constructed at Interchange 13A of the New Jersey Turnpike. Phase 3 included new ramps at the McClellan Street Interchange with Routes 1&9.

TERMINAL FACILITIES - Terminal C was expanded to include a new concourse and immigration facility. Continental Airlines added a 12 wide-body gate concourse, a new baggage handling system, a 20,000-square-foot Presidents Club and a Customs and Immigration area.

AIRSIDE FACILITIES - The site of the former control tower and administrative complex, as well as adjoining roadway and parking areas, were converted to airside operations. This provides needed space for aircraft parking and additional taxiways, and improves aircraft traffic flow. A new tower was erected at Terminal C to improve ramp utilization and manage the servicing of aircraft. This facility alleviates taxiway congestion and makes better use of all Terminal C gates. A new administration/airport rescue and fire-fighting facility houses the central nerve center for the airport. All operations, from roadway traffic conditions, to the Monorail and passenger terminal activities, are monitored from this facility, which also houses the airport's police force. The structure is a composite of a new building, joined to the original central passenger terminal at the airport (an historic building).

Contact: Mark Pagliettini, PANYNJ, (212) 435-5531

The Authority also selected The Louis Berger Group, Inc. (Berger) for the provision of Program Management Support services for the implementation of the Newark Liberty International Airport AirTrain Program. This program extended the on-airport Monorail system approximately one mile to the new NEC Station, and included track upgrades, platform construction, and access road redesign/construction.

The new NEC station is composed of three major elements: two 32' wide by 1050' long NEC platforms, a 350' connecting Concourse, and the Monorail Station itself. The project included increasing the number of electrified tracks along the corridor from four to a total of six, construction of the new NEC station building, construction of two rail platforms, and construction of a monorail service road.

Berger managed project controls and planning efforts; developed, implemented, and maintained the master NEC Program Schedule (utilizing Primavera P3 Project Planner); monitored the project's Period Performance Data; analyzed cash flow and budgeting reports; and performed project cost estimation. Berger also assisted Port Authority Police and Fire marshals in the development of the various emergency procedures, and AirTrain Station emergency equipment graphical plans and layouts.

Contact: Mark Pagliettini, Assistant Director, World Trade Center Construction, PANYNJ, (212) 435-5531

Meadowlands Railroad & Roadway Improvements, Meadowlands, NJ
New Jersey Sports and Exposition Authority

The New Jersey Sports and Exposition Authority hired Urban Engineers (Urban) to provide construction management and construction inspection services for the Meadowlands Railroad and Roadway Improvement Project. The assignment also included preparation of an independent cost estimate. The project required extensive coordination between NJSEA, New Jersey Transit, the New Jersey Department of Transportation, and the New Jersey Turnpike Authority. Urban worked within this multi-agency environment in a cooperative effort to provide rail access to the Meadowlands Sports Stadiums and the future Xanadu entertainment and retail complex in East Rutherford, NJ.

Project Background: Construction Manager for a $216 million multi-agency project of multiple prime contracts (5) to bring passenger rail service to the New Jersey Meadowlands Sports Complex in East Rutherford, NJ. The project achieved substantial completion in July, a grand opening ceremony was held on July 20, 2009, and train service continues for larger events.

The project includes a new 2.3 mile railroad alignment on elevated structure through sensitive environmental areas, a new passenger rail station, and roadway improvements at the Meadowlands Sports Complex. The two new tracks, each approximately 12,300 feet long, connect with New Jersey Transits Pascack Valley Line. The rail station features an island platform and side platform, each approximately 950 feet in length, and a waiting area for passenger queuing and shelter. All aspects of code required egress and passenger flow, including pedestrian overpasses, escalators, stairs, and elevators. The project also includes a communications and signal system with three new interlockings, and a state of the art passenger communications system. The project also included major improvements to existing roads as well as a new rail bridge. Roadway improvements involve modifying the North Connector Road Interchange by building new roads, ramps, intersections, bridges, pedestrian overpasses, and parking lots, and relocating two other entrances that also channel the traffic to and from the complex. Coordination of work schedules of Xanadu and the New Meadowlands Stadium projects to alleviate conflicts with traffic patterns and construction activities. (2005-present)

HIGHLIGHTS:
Construction Management
Construction Inspection
Cost Estimating
New Rail Tracks with Station
Major Roadway Improvements
Extensive Interagency Coordination

"The new rail connection will serve the Meadowlands Sports Stadiums and Xanadu entertainment and retail complex."

Contact: John Duffy, Vice President Of Engineering and Construction, New Jersey Sports and Exposition Authority, [redacted]

Subconsultants

HNTB

The LBG/UE Joint Venture will be joined by HNTB for Signals and Communication support. Beginning as a railroad bridge design firm and developing into a multidisciplinary corporation, HNTB has built a strong legacy of delivering total transportation solutions for communities and regions. To that end, the HNTB staff possess a wide range of signal and train control capabilities gained through practical application of all types of signal systems for both private and public clients. The HNTB personnel have extensive experience with automatic block signal systems, centralized traffic control systems, interlockings, simulation (operations simulation and design), "On Track", supervisory control systems, microprocessor-based systems and construction phase services/inspection.

HNTB is currently completing work for a Task Order GEC contract with Amtrak, for which they have provided signal, electric traction/OCS, track design and engineering services for several projects in ACSES territory. Some of the signal projects under this GEC have contained multiple tasks such as the development of new aspect control lines and the design of new track, traffic, routing and other signal circuits.

HNTB is a national transportation infrastructure firm that offers extensive design, engineering and planning services to federal, state and local public and private clients. HNTB's more than 3,700 talented and dedicated professionals in more than 63 offices nationwide deliver transportation capabilities that provide local solutions. As trusted advisers and renowned experts, HNTB brings technical expertise to virtually every aspect of the planning, design and construction management process.

HNTB opened its first New York office in 1922. Since then, they have grown and diversified to meet the demand for a wide array of transportation solutions. For the past 60 years, HNTB Engineering & Architecture, P.C. (HNTB) has provided public and private agencies throughout New York comprehensive engineering, architectural and planning services in a wide range of disciplines, including: transportation, bridge, aviation, architecture, urban design and planning, environmental engineering, and construction services. Currently, more than 110 HNTB multi-disciplinary professionals and support staff are located within the New York Metropolitan Area. HNTB is completely familiar with local conditions and maintains a principal office in New York City. The successful completion of over 280 projects in New York demonstrates the firm's commitment to providing its clients innovative and cost-effective solutions, within the bounds of quality, customer satisfaction and communication.

Stellar Services (MBE)

Stellar Services is a Port Authority of New York and New Jeersey certified S/MBE Information Technology consulting firm with extensive experience in the transit industry. Stellar's track record proves that they have the ability to finish every project to the satisfaction of their clients. Stellar is proud to claim more than 16 years of experience providing a comprehensive range of innovative and effective IT consulting, procurement and professional services for government agencies at the federal, state and local levels. Since its beginning, Stellar havs achieved success on all of their projects to date and distinguished themselves in project management, software development, engineering and construction planning and management, document management system consulting and systems integration, hardware/software procurement, asset management, logistical support, and quality control process. Stellar has been growing steadily and currently possesses an annual revenue of $12.8 million and has one-hundred highly educated and experienced IT professionals, whose broad range of specialties make developing elegant and effective solutions for their clients possible.

Stellar Services is a Capability Maturity Model® Integration certified firm. Stellar has formed several strategic partnerships with industry leaders such as Open Text Corporation and Primavera Technology Premier Partnership and the Microsoft Gold Partnership. Working together with their clients as project partners, they are able to offer unsurpassed services and go beyond the client requirements by delivering solutions of the highest caliber.

Stellar personnel bring an arsenal of sophisticated technology to the field and work one-on-one with their clients to make sure that the solutions fit their unique needs and that the clients can fully manage Stellar's implementations after they leave. Stellar's goal is to balance the cutting-edge with the practical, while always delivering value. They have provided premiere consulting and advisory services to transportation and aviation clients such as the Authority as well as New York City Metropolitan Transportation Authority, New Jersey Transit, Metropolitan Washington Airports Authority and The Department of Aviation City of Atlanta, to name a few.

The company's core is its team of highly educated and experienced IT professionals, whose broad range of specialties make developing elegant and effective solutions for their varied client base possible. Over 85% of Stellar employees possess advanced Masters or Post-Baccalaureate degrees as well as solid experience in IT consulting. Stellar's dedicated competent team of professionals is comprised of project managers, system and network engineers, programmers, content management specialists, business process analysts and subject matter specialists fully equipped with superior technical and interpersonal skills.

Garg Consulting Services, Inc.(MBE)

Founded in 1990, Garg Consulting Services (Garg) is a multi-disciplinary engineering firm headquartered in Rocky Hill, CT with an office in Cherry Hill, NJ. Garg currently employs over 40 employees, mainly working on federal and state projects in Connecticut, New York, New Jersey, and Pennsylvania. Garg is DBE/MBE/SBE certified with many agencies, particularly throughout the Northeast.

Although Garg has experience in a wide variety of disciplines in the transportation industry, its specialty is rail and transit engineering, including power traction supply, catenary, signal and communications, track, and rolling stock engineering. Garg's staff is comprised of experts with over 20 years of international rail and transit engineering experience. It is Garg's reputation as an experienced and qualified rail engineering firm which has led to Garg's involvement in high profile rail projects throughout the United States. Other areas of experience and expertise include bridge/structural engineering, highway/roadway design, environmental engineering, construction engineering and inspections, and survey.

Envision Consultants, Ltd.(WBE)

Envision Consultants, Ltd. is an established woman owned business with over fourteen years of experience. Their commitment to client satisfaction has resulted in the successful completion of diversified construction projects, from highways, transit systems and educational facilities throughout the United States. Envision's corporate philosophy is to focus on their clients' needs and objectives with individualized and unique project support services, in order to move projects forward with confidence.

"On time and on budget." When all is said and done, these five words are the ultimate measure of your project's success. Effective planning is the key to achieving your cost and scheduling objectives. Envision has worked with companies all over the world to develop effective engineering and construction control systems.

E. Staff's Qualifications & Experience

E. Staff's Qualifications and Experience

We are pleased to offer the PANYNJ a comprehensive staff, as shown in the attached organization chart, for this Professional Planning, Project Management and Related Services assignment. Our key staff is immediately available to serve on the project.

Key Personnel Qualifications

Senior Planning Manager – Mr. Victor R. Simuoli, P.E.

The LBG/UE Joint Venture team will be led by Mr. Victor R. Simuoli, P.E., who brings extensive experience in project management, with demonstrated experience in successfully managing large-scale and diverse projects from inception through completion. Mr. Simuoli provided technical and Project Management support to the Port Authority as the Systems Program Manager for the design and development of the JFK AirTrain ($1.9 billion project) and is known to Port Authority and PATH senior management. In his role as Project Management Oversight Consultant of the MTA Capital Program for the FTA, Mr. Simuoli was responsible for the oversight of the Communications Based Train Control (CBTC) pilot project on the Canarsie Line. This experience will prove valuable to PATH as it undertakes the upgrade of its signaling system using CBTC technology. In addition, Mr. Simuoli previously served as Director of Engineering at MTA New York City Transit and as a Senior Capital Program Manager at MTA Long Island Bus.

Project Engineer – Mr. Charles "Chuck" King, P.E.

Mr. King is well known to the PANYNJ from over twenty-five years of service on various PANYNJ projects, including most recently serving as the Project Manager for the Assessment of the Project Management Office for Ernesto Butcher. A report was issued that is currently being used to enhance the Project Management function at the PANYNJ. He also served as Deputy Program Manager for the Reconstruction of the World Trade Center, Phase 2. His responsibilities included preparing Project Status Reports and Financial Reports. These reports provide information on budget vs. estimate at completion and actual expenses. He also managed the weekly progress reports and the web based project portal. He also served as the link to PA Public Affairs for project data provided to the press and the Board. In Philadelphia for SEPTA he served as the Deputy Program Manager for the Reconstruction of the Market Street Elevated Transit Line. This $650M, 5 year project included demolishing and rebuilding this two track elevated during tightly controlled outages. These outages were painstakingly planned in detail to ensure that train service could be returned in time. He also served as a Project Manager on both design and construction projects including two critical New York City facilities. As Project Manager for the Enhanced 911 Center in Metro Tech Center, he delivered both the design and construction services to the NYPD. He also served as the Project Manager for the Amtrak/Long Island Railroad Central Control Center. This facility housed all the switching and tracking systems for the Penn Station Train tracks, including those assigned to Amtrak, Long Island Railroad and New Jersey Transit.

Project Management Systems Specialist – Mr. Paul J. DeMeo, P.E.

Mr. Paul DeMeo is the Senior Vice President for Management Systems with the Louis Berger Group and possesses over 40 years of experience in Program Management, Construction Management, Civil Engineering and Project Control System development. He was assigned as Program Manager for several Port Authority developments including the EWR Redevelopment Program, the NEC Connection Project; the PATH Restoration Project and the Downtown Restoration Program. He is currently supporting a wide range of projects, performing management analyses, configuring and implementing systems, supporting project control assignments and staffing new programs. Some of his recent assignments include a SharePoint coordination site for the Joint Guam Program Office; the Qatar Project Management Sharepoint Executive Reporting System (with internet access from project sites across the Middle East and North Africa); as well as R&D applications for several other Berger clients.

Plan Coordinator – Mr. Daniel B. Mesnick

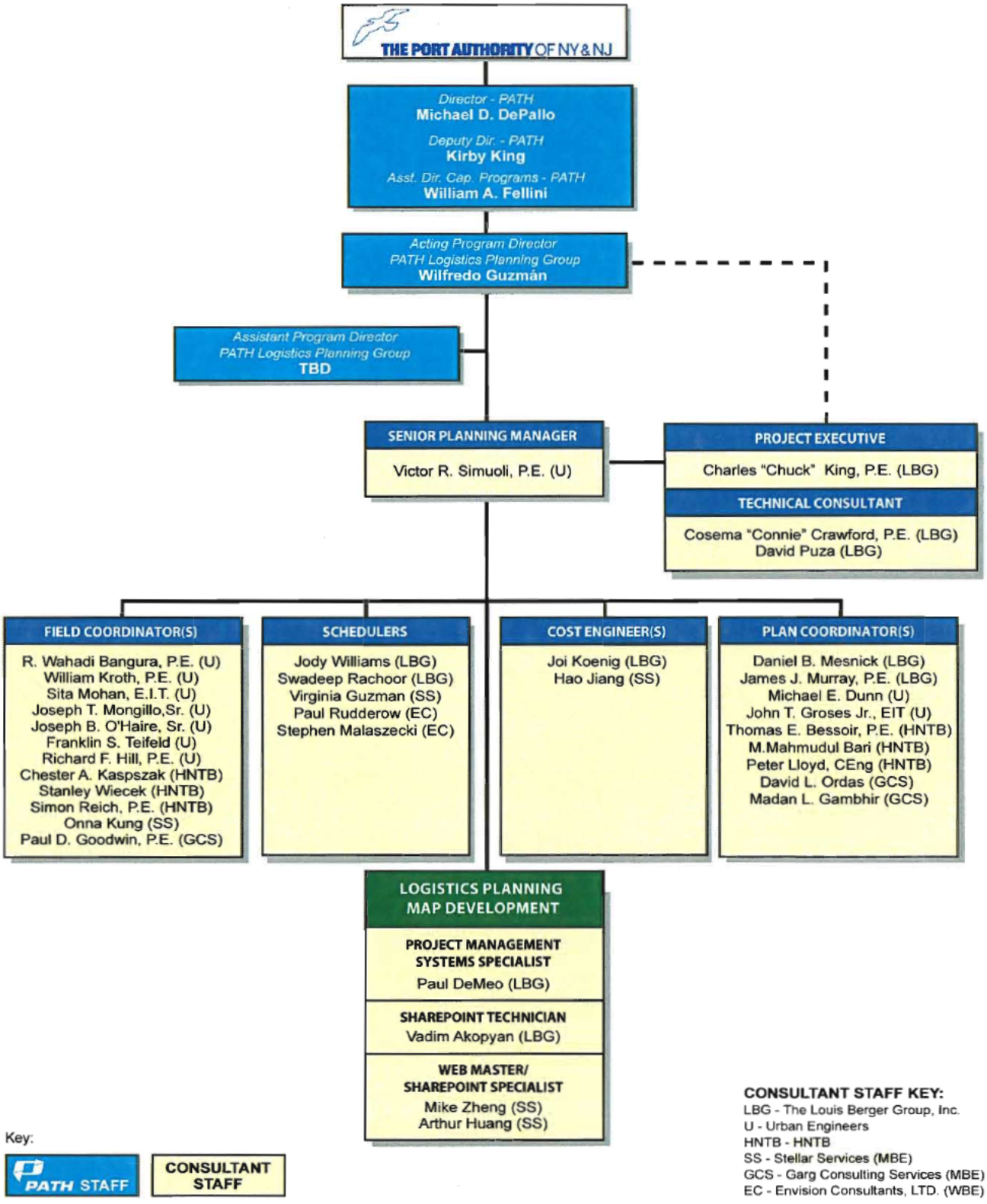
Mr. Mesnick has 30 years of experience in the railroad and transit industry. His expertise is in rail and transit track engineering and maintenance of way planning and costing as well as developing capital investment programs to achieve a state of good repair for existing properties. He also has experience in track engineering, line construction engineering management and oversight, track deterioration modeling, and maintenance planning, track production equipment productivity improvement and training, track program planning and capital renewal assessment, track component condition assessment, and developing training and quality control programs for rail and transit track inspection and track production staff. His experience includes the specification of track component systems, including Direct Fasteners and Special Work.

Plan Coordinator – Mr. Michael E. Dunn

Mr. Dunn has extensive experience in planning, directing, and managing railroad right of way maintenance, production and capital construction and station hardening security that includes project planning, design, project controls and administration. He managed and directed both large and small staffs in traditional, matrix and project oriented management structures. He has been responsible for coordination and review of new capital construction project designs and has acted as Amtrack's engineering design representative for all large scale projects in the NYPS area. He has also acted as Project Manager for the the First Avenue Ventilation project, a $172 million project to reconstruct the ventilation structures at First Avenue in Manhattan.

Field Coordinator – Mr. Richard F. Hill, P.E.

Mr. Hill has extensive Mega Project experience as a Civil Engineer in both Design and Construction. At the Pennsylvania Department of Transportation, he was the project manager for the Interstate 95 Highway Project through Center City Philadelphia, which included a major 8 lane bridge over the Schuylkill River, Interchanges with both the Walt Whitman and Benjamin Franklin Bridges over the Delaware River, two transit stations on SEPTA's Market Frankford Subway/Elevated line and relocation of the Market Frankford line into the median. At Amtrak, he was the Director-Contract Construction for the NECIP Project between Boston, MA and Washington, DC. He also directed all contracted construction for the NE Corridor for 13 years. This included the initial work on the Electrification Project between New Haven, CT and Boston, MA. For 6 months he was responsible for Amtrak's National Contracted Construction. Currently, Mr. Hill is the FTA, Senior Project Manager for the FTA's Second Avenue Subway Project in New York City. Mr. Hill has extensive experience in program management and construction management of major highway, rail and rail transit facilities, planning, scheduling, budgeting and cost estimating, quality control/quality assurance, safety, agency/contractor coordination, documentation, inspection and community relations.



As requested, resumes for proposed staff are included in the following section.

The Louis Berger Group, Inc.

CHARLES "CHUCK" F. KING, P.E.

Project Executive

EDUCATION:
MS, Civil Engineering, University of Oklahoma, 1983
BFA, University of Oklahoma, 1975

PROFESSIONAL REGISTRATIONS:
Professional Engineer, NY, NJ, CT, MD, PA
Structural Engineer, IL

PROFESSIONAL AFFILIATIONS:
American Society of Civil Engineers
American Institute of Steel Construction
Project Management Institute
Construction Management Association of America

PROFESSIONAL EXPERIENCE:
As a Program / Construction Management Executive with nearly thirty years experience, Mr. King has served in a number of increasingly responsible positions on several complex transportation and facilities projects. His management experience on design / construction programs includes strategic planning, cost analysis and budgeting, stakeholder relations, schedule and scoping analysis, contracts and public relations. His construction management experience ranges from "on site" management including inspection and field engineering to document control, change order processing, claims mitigation and quality assurance / control. These management skills coupled with his Professional Engineering background in both design and construction permit him to immediately understand issues on large complex projects and manage the resolution of cost, schedule, quality, and safety issues.

In addition to strategic planning skills, Mr. King is an effective communicator and organizational manager. His skills include: leadership, technical competency, personnel management, organizational management, and profit / loss accountability. Tactical leadership skills include the ability to defuse difficult situations, resolve conflicts evolving from contractual interpretations and to negotiate equitable resolutions between business, engineering and construction parties. Relevant project experience includes the following:

- **Port Authority of New York and New Jersey (PANYNJ), Project Management Office Assessment, New York, NY.** *Project Manager.* Interviewed PANYNJ Executive Management and Project Management staff, analyzed business processes by comparing them to other agencies such as MTA CC, NJDOT, DASNY and NYC SCA, quantified project management and project controls staff to capital spending for the four Line Departments (Aviation, PATH, Port Commerce and Tunnels, Bridges and Terminals), investigated the PM's role in the PANYNJ's restructured PM organization, developed recommendations for increasing the effectiveness of the central Project Management Office per principles of the Project Management Institute.
- **Southeast Pennsylvania Transit Authority (SEPTA), Market Street Elevated Reconstruction Program, Philadelphia, PA.** *Construction Manager.* This $567M program involves the replacement of 2.5 miles of elevated transit structure with a new composite steel/concrete guideway carrying dual track service. Six transit stations are being completely demolished and replaced under this program. The project is located in the inter-city neighborhood of West Philadelphia. The program is divided into four construction contracts. Responsibilities include oversight of four construction contracts, one design contract and several specialty support contracts for quality, cost control and schedule compliance. Managed a staff of over fifty (50) construction engineers, inspectors, safety and office personnel. Construction was performed during service outages as coordinated with the railroad and two signalized interlockings were reconstructed.
- **Port Authority of New York and New Jersey (PANYNJ), World Trade Center Site Redevelopment Program (Downtown Restoration Program), New York, NY.** *Deputy Consulting Program Manager.* Responsible for the supervision of the program management team supporting the Port Authority of NY and NJ for the reconstruction of the World Trade Center in Lower Manhattan. This $16 billion program for reconstruction of the WTC site includes a new Transportation Hub designed by world-renowned architect, Santiago Calatrava, the 1776 feet tall Freedom Tower, the 9/11 National Memorial, Towers 2, 3, and 4, Vehicle

Security Center, Rte. 9A realignment, a Central Chiller Plant, and the extensive Site Roadways and Utilities. Mr. King assisted the PA Director in managing the program including budgets, forecasts and cost variance analysis, project status reports, financial analysis and invoice processing, monthly financial and progress reports, program CPM scheduling (deterministic and probabilistic), site logistics, project communications, document control, contract management and serving as a liaison with the FTA and other stakeholders.

- **New York State Thruway Authority, Reconstruction of Interchange 17 (Contract 3), Newburgh, NY.** *Project Engineer.* Responsible for managing the construction of the direct connection between the New York State Thruway Authority (I-87) with I-84. This $68M project involves the construction of seven new highway bridges, associated ramps, MSES walls, drainage structures, pavements, lighting, signals and wetlands. This new connection eliminates the need for traffic to enter local roads when transferring from one Interstate to the other. Managed several aspects of the project including compliance with contract, safety, document control, change order management, CPM schedule review, construction inspection and quality assurance oversight of the project testing program. Project funding was shared by the Thruway, New York State DOT and the FHWA, and reporting was required to each entity.
- **Delaware River Port Authority, Ben Franklin Bridge Main Cable Investigation and Rehabilitation, Philadelphia, Pa/Camden, NJ.** *Construction Manager* for the Ben Franklin Bridge Main Cable Investigation and Rehabilitation for Delaware River Port Authority, Prepared construction specifications and scope of work for the construction contract to unwrap and wedge main cables on the Ben Franklin Bridge. Managed the procurement process that included pre-qualification and bidding processes that resulted in contract award to IEW for $3M. After award, managed a RE/I team that monitored the contractor's work and approved payments. Construction work was coordinated with the engineering investigation conducted by Weidlinger.
- **New York City Department of Transportation, Design/Build Emergency Deck Replacement for the Brooklyn Bridge, New York, NY.** *Deputy Project Manager* for Design and Resident Engineering/Construction Inspection Services on this $50M bridge deck replacement project. Responsible for scope development, contract negotiations, bid preparation, managing Resident Engineering staff and subconsultants.
- **New York State Thruway Authority, Pier Protection and Tower Painting at the Tappan Zee Bridge. Nyack/Tarrytown, NY**. *Project Manager* for Resident Engineering/Construction Inspection Services on this $45M bridge rehabilitation project, responsible for project delivery, staffing, budget and schedule performance. Project includes installation of pile supported precast concrete fenders to protect the bridge foundations from dynamic barge collisions. Rehabilitation and painting of the steel tower structures was also included in the scope of work. The project included three separate construction contracts.
- **Amtrak/Long Island Rail Road Joint Venture in New York City Design and Construction Phase Services, Penn Station Control Center Building, New York, NY.** (Construction Cost - $20M). *Project Manager.* Responsible for the delivery of this new facility housing all signals for the Northeast Corridor through New York City, including Sunnyside Yards. The new building was six stories with subgrade structures extending to the rail yard nearly 100 feet below.
- **MTA Triborough Bridge and Tunnel Authority (TBTA), Construction Management on Roadway Rehabilitation and Installation of Cathodic Protection at the Brooklyn-Battery Tunnel, New York, NY.** (Construction cost - $16M). *Project Manager*. Responsible for the installation of this system inside the fresh duct of the tunnel, sitting directly beneath the roadway slab which was deteriorating from corrosion of embedded steel beams and rebar.
- **New York City Police Department, Public Safety Answering Center/Enhanced 9-1-1, Design and Construction Management, Brooklyn and Manhattan, NY.** (Construction Cost - $26M). *Project Manager.* Responsible for the $100M upgrade to the NYPD 911 System including the design and construction of two new Call Centers housing the 911 operators and supervisory personnel.

COSEMA "CONNIE" CRAWFORD, P.E.

Technical Consultant

EDUCATION:
MSE, Princeton University
BSE, Princeton University

PROFESSIONAL REGISTRATIONS:
Professional Engineer – NY

PROFESSIONAL AFFILIATIONS/ TRAINING/ CERTIFICATIONS:
American Society of Civil Engineers – Standards Committee for Design Loads on Structures During Construction
American Public Transportation Association (APTA) - Former chair of Capital Projects Subcommittee
Women's Transportation Seminar
The Moles
Construction Management Association of America (CMAA)

PROFESSIONAL EXPERIENCE:
Ms. Crawford is a Senior Vice President for The Louis Berger Group, Inc. and is in charge of Berger's U.S. Operations' Engineering Business Unit. She has more than 29 years of experience with the public and private sectors in the management, design and construction of large scale transportation programs.

Ms. Crawford earned her BSE and MSE from Princeton University and has since built a national reputation as a leader in the engineering community working for both the private and public sectors. Prior to joining Berger she most recently served as Senior Vice President and Chief Engineer of the New York City Transit Authority (NYCT), overseeing the design and construction of passenger stations, rail tunnels, elevated rail structures and bridges, power distribution centers, and signals and communications systems. Her representative project experience includes:

- **NYC Transit Authority, System Expansion Projects: Second Avenue Subway and 7 Line Extension.** *Chief Engineer* responsible for owner's review and acceptance of design and construction of a new eight-mile long subway system under the east side of Manhattan, and a two-mile extension of the 7 Line subway to the west side. Second Avenue Subway will provide two tracks and sixteen stations through cut and cover and tunnel boring machine construction. Also responsible for design of new CBTC signal systems for both lines.
- **NYC Transit Authority, Reconstruction of IRT Subway after 9/11.** *Engineering Director* for design and reconstruction of 1400 feet of subway tunnel crushed under the World Trade Center on September 11, 2001. Design was completed in five weeks, and the entire tunnel section was completed and placed into service one year after the attack. Also responsible for safeguarding adjacent BMT and IND subway lines and development of FEMA terrorist threat assessment.
- **NYC Transit Authority, Communications Based Train Control Signaling (CBTC) on the Canarsie (L) Line.** *Chief Engineer* responsible for installation of a CBTC signaling system, including the development of new standards for interoperability specifications to accommodate the flexible multi-track NYC Transit network. CBTC will improve throughput, safety and control.
- **NYC Transit Authority, Fulton Street Transit Center.** *Chief Engineer* responsible for owner's review and acceptance of design and construction of a major Lower Manhattan station complex serving twelve subway lines and 275,000 riders to improve circulation and safety.

- **NYC Transit Authority, South Ferry Terminal Station.** *Chief Engineer* responsible for owner's review and acceptance of design and construction of a new underground two track subway terminal station in Lower Manhattan meeting current standards. The new station alignment involved underpinning three other active subway tunnels.
- **NYC Transit Authority, Corona Rail Maintenance Shop.** *Chief Engineer* responsible for design/build construction of a new LEED certified rail shop serving the NYC Transit Flushing Line, with interior capacity for five 600' long trains, photovoltaic panels, fuel cells, natural ventilation and lighting, and use of harvested and recycled rainwater.
- **NYC Transit Authority, Stillwell Avenue Terminal Station.** *Chief Engineer* responsible for reconstruction of a major above ground station serving four subway lines in Coney Island. The arched glass roof, one of world's largest for a transit facility, is formed of photovoltaic panels providing 250 kW of power to the station.
- **NYC Transit Authority, Culver Line Rehabilitation.** *Chief Engineer* responsible for rehabilitation design and construction of a mile long elevated concrete-encased viaduct, including deck and structural steel repairs, new track, and replacement of a major interlocking.
- **NYC Transit Authority, Brighton Line Stations.** *Chief Engineer* responsible for comprehensive rehabilitation of seven consecutive stations on the Brighton Line subway in Brooklyn, including an ADA retrofit at Kings Highway Station.
- **NYC Transit Authority, Bleecker Street Station, Passenger Transfer and ADA Accessibility.** *Chief Engineer* responsible for rehabilitation design and construction of the landmark Bleecker Street Subway Station in Lower Manhattan, including the construction of a new underground transfer connection to the Lafayette Street Station, and the installation of five elevators and other accessibility components to bring the station complex into compliance with the Americans with Disabilities Act (ADA).
- **NYC Transit Authority, Tunnel Lighting Rehabilitation, Bergen Interlocking to W. 4th on the 6th Avenue Line.** *Chief Engineer* responsible for tunnel lighting rehabilitation project to improve safety and security.
- **NYC Transit Authority, Line Structure Overcoating, Bronx Park East to 241 St.** *Chief Engineer* responsible for overcoat painting of five miles of elevated subway structure with full containment and environmental controls. Similar project: Line Structure Overcoating, 103rd to S. Main Portal on the Flushing Line in Queens.
- **NYC Transit Authority, Automatic Train Supervision (ATS) "A" Division.** *Chief Engineer* responsible for the installation of a train tracking and control system on the NYC Transit "A" Division (the numbered lines), including the provisioning of a new Rail Control Center. The system serves as the foundation for station public address systems and customer information screens.
- **NYC Transit Authority, Queensboro Plaza Interlocking.** *Chief Engineer* responsible for the rehabilitation of the three-track interlocking, with new CBTC-ready signals. The upgrade will result in reduced maintenance costs and improved operational reliability.
- **NYC Transit Authority, Ventilation Plants on the Queens Boulevard Line.** *Chief Engineer* responsible for the design and construction of two new fan plants in Manhattan, replacing four undersized exhaust-only plants built in 1939.
- **NYC Transit Authority, Ventilation Plant - Fulton Street Line.** *Chief Engineer* responsible for the construction of a new ventilation plants on at Lafayette Street in Brooklyn which will serve two separate subway lines and replace two existing undersized plants. The project also included construction of a new underground power substation.
- **NYC Transit Authority, Bergen Street Interlocking.** *Chief Engineer* responsible for upgrade of the 1930s-era interlocking on the Culver and Crosstown Lines in Brooklyn with a new solid state interlocking (SSI) interlocking, including the development of new standards for SSI application on a high volume transit system.

DAVID E. PUZA
Technical Consultant

EDUCATION:
BS, Civil Engineering Technology - Southeastern Massachusetts University – 1975
Associates Degree - Springfield Technical Community College – 1972

PROFESSIONAL ACHIEVEMENTS:
E.I.T. – Commonwealth of Massachusetts
Massachusetts Licensed Construction Supervisor #[redacted]

PROFESSIONAL PUBLICATIONS:
Co-Author, Rapid Excavation and Tunneling Conference 1981
"Mixed Face Tunnel Excavation Using Floating Crown Bar and Modified Spilling Method"
"Construction and Performance of a Mixed Face Tunnel Excavation"
Co-Author, Civil Engineering Magazine
"Saving a Sinking City"

PROFESSIONAL EXPERIENCE:
Mr. Puza's relevant project experience includes the following:

- **Merritt Construction Services, Inc.** *President* of MCSI providing construction services to the industry such as project management, cost estimating, budget development, scheduling, constructability reviews, risk analysis and construction claims preparation.
- **Railroad Construction Company, Inc.** *Vice President* reporting to the Owner, having responsibility for overall field management, operations and administration for RCC's New York operations with the focus on hard dollar bid work and developing strategic design-build relationships with multiple New York and New Jersey area-engineering firms which resulted in over $75 Million in Design Build and hard Dollar bid contracts. Also responsible for developing Railroad Construction's corporate growth objectives ($165Million), (with the Owner and other Management Team Members). Responsible for the start up operations for RCC Fabricators, Inc. ($12Million) and RCC Electric, Inc. ($29Million). Developed 5 year business plans and Sop's for the three business units. Major focus changed and efforts have been on the completion of the Route 78 Weigh Station project for the NJDOT and the development of an equitable adjustment claim for differing site conditions, weather impacts and contract document discrepancies.
- **Judlau Contracting, Inc.** *Chief Operating Officer* reporting to the owner, had responsibility for overall field project management, operations and administration of the company. Also responsible for developing corporate growth objectives, strategic planning and design-build relationships with multiple New York and New Jersey area-engineering firms.
- **Modern Continental Construction.** *New York Regional Director* for established New York Metropolitan Area offices for heavy construction operations. Developed design-build relationships with multiple New York area engineering firms. Responsibilities included estimating, engineering and construction.

- **NAB Construction Corporation.** *Project Executive* in charge of the overall management of multiple construction projects, and responsible for overseeing site personnel, interacting with clients on a daily basis, supervising subcontractor bid and award process, and monitoring monthly cost and scheduling reports. Responsible for reviewing cost estimates for prospective projects and developing design-build projects and teams from inception through construction.
- **Tappan Zee Bridge - Westchester & Rockland Counties, NY.** Rehabilitation of the bridge's west trestle and west approach pavement. Negotiated $3.2 Million value engineering proposal and $6.7 Million change order to increase revenues to $28.2 Million.
- **Throgs Neck Bridge – New York City, NY.** Main cable inspection; involved rigging of large platforms onto bridges to unwrap main cables, performed inspections and rewrapped cables.
- **Verrazano-Narrows Bridge – New York, NY.** Main cable inspection; involved rigging of large platforms onto bridges to unwrap main cables, performed inspections and rewrapped cables.
- **CO-OP City Defect Repair Program – Bronx, NY.** Excavation and installation of piping for a new dual and high temperature hot water system and 15KVA electric duct bank.
- **Enclosures for Signal Equipment – Bronx, NY.** Enclosures for train signal equipment on the Bronx IRT Line from 149th Street Station through to the 241st Street Station. Work included foundations, structural steel framing, and installation of prefabricated modular units.
- **Verrazano-Narrows Bridge – New York, NY.** Project scope included structural steel repairs to existing stringers and sub-floor beams of the Verrazano-Narrows Bridge. Project finished one year ahead of schedule.
- **Allstate Power-Vac, Inc.** *Chief Operating Officer* responsible for all corporate operations and administration of this full service environmental remediation and industrial cleaning firm. Developed strategic business plan. Company sales grew from $15.3 Million to $23 Million in one year.
- **Perini Corporation.** *Area Manager* responsible for operations and administration of multiple heavy construction projects in the New York Metropolitan Area. Corporate responsibilities included estimating of special projects and review of cost estimate for prospective projects, claim preparation for project closeouts and division strategic planning.
- **NYCTA 60th Street Tunnel – New York, NY.** Rehabilitation of 16,000 lf of mainline track and power rail. Extensive concrete, structural steel and water remedy repairs throughout the subway system.
- **NYCTA Lexington Avenue Line - New York, NY.** Perini-sponsored joint venture. Work performed consisted of rehabilitation of mainline track, switches, contact rail, tunnel lighting, rehabilitation of ventilation plants, pumping, compressor and power facilities, and extensive concrete, structural steel and water remedy repairs throughout the subway system.
- **NYCTA 8th Avenue, Zone 3 - New York, NY.** Responsible for all operations on this Perini-sponsored joint venture. Contract called for furnishing and installing signal, track and power equipment, extensive water remedies, structural improvements and station rehabilitation for the New York City Transit Authority's subway system in Manhattan. The work covered station and line sections from the 34th Street Station to the 207th Street Station.
- **NYCTA Flushing Line Rehab.** Responsible for supervision of all engineering and administrative functions for this Perini sponsored joint venture.

JODY WILLIAMS
Scheduler

EDUCATION:
Bachelor of Construction Engineering Technology, Purdue University, Fort Wayne, IN, 2006
Associate's Degree, Architectural Engineering Technology, Purdue University, Fort Wayne, IN, 2005

PROFESSIONAL TRAINING:
BIM Model Visualizations/4D Schedule Development
Timberline for Construction Cost Estimating
Revit and Navis Works
Primavera P5 & P6
Primavera Pertmaster and @Risk for Risk Analysis
Expedition and Livelink (Document Control)
Earned Value Analysis using Prism
AutoCad, Microsoft Office

PROFESSIONAL EXPERIENCE:
Mr. Williams is a Project Control Engineer with over five years experience in scheduling, construction engineering, and cost estimating.

- **Port Authority of New York and New Jersey (PANYNJ), Newark Liberty International Airport, Newark, NJ.** *Project Control Specialist*. This project consists of the redevelopment of Terminal A, which includes a new state of the art facility, a new infrastructure system consisting of both utilities and roadways, a 3,000 parking space garage, and the future development of the current Terminal A. Responsibilities include: creating initial construction schedules; assisting with the development of the Program Management Plan; creating a schedule for the Airport Operations Management preliminary meeting with tenants, contract negotiations and takeovers, and construction; provides schedule risk management; and assists in program economics based on initial and updated construction schedules. Project Value: $3.8 Billion.

- **City of MASDAR, MASDAR Headquarters, Abu Dhabi, United Arab Emirates.** *Project Controls Specialist.* This project consists of the design and construction of a new world-class innovative headquarter building for the new zero-carbon city of MASDAR, Abu Dhabi. This building will be a landmark in sustainable architecture and engineering design, exceeding the current highest standards of green building energy and waste efficiency, material technologies, and integrated design thinking (above LEED Platinum+). Responsibilities include: working with field personal to collect risk ranges for various affected activities; creating and inputting the ranges into Pertmaster; identifies errors within the project to deter false results; generates results for affected risks; and assists in creating final risk reports.

- **US Army Corps of Engineers, Picatinny Arsenal, Sparta, NJ.** *Project Control Specialist*. This consists of four different projects, which include an Explosives Research and Development Facility, a Pyrotechnics Research and Technology Facility including a Flare Tunnel, a High Energy Propellant Formulation Facility, and the Picatinny Arsenal Fire Station. Responsible for: working with Corps of Engineers (COE) in analyzing construction progress schedules; developing progress schedule reports; providing information to assist the COE in aiding their appointed contractors with scheduling errors; providing schedule analysis for the COE for Request for Payment from their appointed contractors; analyzing monthly contractor progress schedules for

logic, negative float, and out of sequence work; and analyzing documents and schedules for generating reports for claims resolution.

Port Morris Tile and Marble

- **Various Project, Lebanon, NJ.** *Project Estimator.* Responsible for performing quantity take-offs and preparing cost estimates for large general contracting firms. Served as a liaison between the Project Manager and General Contractor to ensure accurate and qualified estimates. Also, managed the preparation of shop drawings for large projects including Freehold Raceway Mall and The Watermark.

Nucor Buldings Systems

- **Various Projects, Waterloo, IN.** *Structural Detailer.* Responsible for performing project specific calculations of overall length of columns and rafters and calculations of overall length of purlins and girts. Also responsible for designing the roof and wall sheeting systems based on customer specifications. Worked directly with engineering staff to finalize building layouts for implementation of production and construction, and with Customer Service and Quality Service Representatives to ensure customer satisfaction.

SWADEEP C. RACHOOR
Scheduler

EDUCATION:
MS, Construction Management, Stevens Institute of Technology, Hoboken, NJ, December 2007
BS, Architecture, CSIIT, Jawaharlal Nehru Technological University, Hyderabad, India, 2005

PROFESSIONAL AFFILIATIONS
Indian Architect and Builder Association, Associate Member
Indian Institute of Architects, Associate Member

TECHNICAL SKILLS:
Primavera P6.1, P3, Primavera Contract Manager, Prolog Manager 2007 R1, Expedition 8.59, MS Office, AutoCAD 2004, 3DS Max 4, Adobe Photoshop CS, PageMaker, Corel Draw 11

PROFESSIONAL EXPERIENCE:
Mr. Swadeep C. Rachoor is a Project Controls Engineer with over 5 years of experience in the construction industry. He has been involved in scheduling, cost and resource loading, document control, and space planning. In addition, Mr. Rachoor has served as an Assistant Architect as well as a Project Engineer, where he performed various project management functions.

- **City of New Orleans Disaster Recovery Project, New Orleans, LA**. *Project Controls Specialist.* Reviews existing Document Storage. Structured project into two departments: Public Works Projects and Public Facilities Projects. Produces Document Control flow charts. Develops Document Types. Working on developing individual document libraries for each project. Creates functional flow charts for Document Control SharePoint site. Coordinates with Technical team to develop SharePoint features.

- **Port Authority of New York and New Jersey (PANYNJ), Downtown Restoration Program, New York, NY.** *Project Controls Specialist.* Traced critical paths and prepared summary schedule leading to the 9/11 Milestone on the following projects: Transportation Hub; Freedom Tower; Streets, Parks and Plazas; NS11MM Memorial and Museum; and Vehicle Security Center 1, South Basement. Currently working on the World Trade Center Construction (WTCC) cost and schedule integration model. Assists in creating Cost Accounts in the P6 database. Enters the Activity Line Items (ALI) into the appropriate Global Activity Code Listing. Assigns the codes to the activities in the Program Controls Model. Assists with the development of the Integrated Cost and Schedule Reporting System. Working to expand the Program Controls Resource Library. Assigns resources to activities in the Program Control Schedule.

- **Various Projects, Morristown, NJ.** *Project Controls Engineer.* Worked on the proposed schedule for the New Jersey Turnpike Exits 6 to 9 Widening Project, which involved both cost and resource loading. Also developed the proposal schedule for the Susquehanna-Roseland 500 KV Transmission Line Project for Geotechnical Services. Trained in Primavera Contract Manager and P6.1.

Kel-Tech Construction

- **New York City School Construction Authority (NYCSCA), Brooklyn, NY.** *Project Engineer.* Responsibilities included: generating, forwarding and tracking status of submittals; contacting subcontractors and suppliers for bid solicitations and evaluating lower bids and aiding in pricing alternates; assisting in managing the project; providing necessary coordination and planning for NYCSCA along with the subcontractors; attending and taking notes for project team meetings, including biweekly NYCSCA/Architect meetings and subcontractor coordination meetings and distributing the meeting minutes to participants. Prepared and submitted daily/monthly project progress reports; prepared and answer RFIs; attended NYCSCA project meetings and updated construction schedule based on project team input; oversaw the set-up of job files. Prepared, updated and monitored logs for tracking submittals, RFIs, change orders, etc., considered necessary for a successful project. Prepared biweekly/monthly schedule in coordination with the Project Manager and Field Supervisor.

Aetna Insurance

- **Various Projects, Middletown, CT.** *Facilities Space Planning and Move Coordinator.* Provided project management support, which involved space planning to assist Aetna with the proper placement of new offices, rooms, systems furniture and employees within established guidelines. Produced drawings for review and feedback and involved project management staff as needed for construction services. Coordinated with employees to ensure that all move-related information was properly reflected on Move Spreadsheets. Conducted independent spot-checks of work areas affected by move planning to ensure that current locations and office availability at destination locations was accurately located. Designed and maintained floor plans including employee names and departmental charge codes. Communicated with all departments and companies in scheduling move activities (i.e. movers, IT, voice communications & mail room contacts). Distributed move information packages to focal contacts for further distribution to employees. Coordinated planning, scheduling and execution of employee moves of all sized on a daily basis. Scheduled and conducted move meetings for larger moves of 25+ employees to plan for the detailed requirements of the move. Developed agenda for meeting and solicited attendees and necessary information. Inspected the works areas affected by move planning to ensure that current locations and office availability at destination were accurately reflected in Move Spreadsheets. Coordinated move activities with building management and security in order to ensure that all necessary building functions needed (i.e. elevators, loading dock, security officers, etc.) were available throughout the move. Performed periodic building audits to verify that employee locations, furniture layout and room configurations were correctly notated on floor plans and in the system. Maintained a professional business relationship with all client contacts. Provided project management support as necessary in situations where existing facilities would not satisfy needs.

Skanska USA Building, Inc.

- **Verizon Wireless Project, Parsippany, NJ.** *Project Engineer Intern.* Skanska was chosen by Verizon Wireless to perform building renovations with electrical and mechanical activities against building code / standard issues. Generated and processed Requests for Information (RFI), potential change orders and approval letters. Applied for permits and communicated with Fire Inspectors and Building Code officials to explain drawings and purpose of the project. Conducted meetings with Owners, Subcontractors, and Engineers. Attended and took notes for project team meetings, including weekly Owner/Architect meetings and subcontractor coordination meetings. Distributed meeting minutes to participants. Participated in job walks and documented and reported findings. Verified that all completed work complied with applicable codes, drawings and specifications. Assisted in the project close-out.

- **NFL, Giants Stadium, East Rutherford, NJ.** *Project Engineer Intern.* Skanska was awarded the design/build contract of the $1.3 Billion Meadowlands NFL Football Stadium Project in East Rutherford, New Jersey. Generated and processed Requests for Information (RFI), potential change orders, and approval letters. Assisted Project Manager in preparing daily work journal, monthly reports, contract documents and bid packages. Assisted the Project Superintendent with inspection of the subcontractors' operations for substantial compliance with the requirements of the Contract Documents. Interfaced and coordinated with on-site Construction Coordinators and Contractors. Assisted in project close-out.

JOI KOENIG
Cost Control Engineer

EDUCATION:
B.S., Operations Research and Industrial Engineering, Cornell University, Ithaca, N.Y., 1991

PROFESSIONAL EXPERIENCE:
Ms. Joi Koenig is a Project Control Specialist / Cost-Schedule Engineer with 10 years of experience in the infrastructure development field. Ms. Koenig has experience in project scheduling, project and program cost control, the preparation of management reports, and database design and implementation.

- **Port Authority of New York and New Jersey (PANYNJ), Project Management Office Assessment, New York, NY.** *Program Management Analyst.* Interviewed PANYNJ Executive Management and Project Management staff, analyzed business processes by comparing them to other agencies such as MTA CC, NJDOT, DASNY and NYC SCA, quantified project management and project controls staff to capital spending for the four Line Departments (Aviation, PATH, Port Commerce and Tunnels, Bridges and Terminals), investigated the PM's role in the PANYNJ's restructured PM organization, developed recommendations for increasing the effectiveness of the central Project Management Office per principles of the Project Management Institute.
- **Port Authority of New York and New Jersey (PANYNJ), Terminal A Modernization & Expansion Planning Project, Newark International Airports, Newark, NJ.** *Program Controls Manager.* Providing Program Management Support Services to the Port Authority of New York & New Jersey (PANYNJ). Responsibilities include: producing management reports; coordination of subconsultant payment process; creating and maintaining program cost, budget, and task order tracking database; creation of Program Management Plan; and oversight of document control and scheduling functions.
- **Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Redevelopment Program, Newark, NJ.** *Program Controls Manager.* Responsibilities for this $780 Million program included: maintaining program master schedule, which incorporated Port Authority (PA), tenant, and contractor schedules; developing project and departmental baseline budgets and then tracking actual costs and forecasts on a monthly basis and comparing against baselines; producing weekly and monthly management reports, which included project status, summary schedule, cost forecasts, and earned value analysis; reviewing and monitoring tenant costs, invoices, and change orders; maintaining program Work Breakdown Structure; overseeing document control functions; and preparing annual department budget.
- **Port Authority of New York and New Jersey (PANYNJ), Terminal B Renovation, Newark International Airport, Newark, NJ.** *Program Controls Manager.* Developed and updated project master schedule and management reports for this $136 Million Capital Program to renovate Terminal B at Newark International Airport. Reports included project status, summary schedule, cost forecasts, and earned value analysis.
- **Port Authority of New York and New Jersey (PANYNJ), Northeast Corridor Monorail Extension Project, Newark, NJ.** *Cost Control Engineer.* Performed cost analysis for the NE Corridor Monorail Extension Project. Coordinated the download of accounting information and audited actual charges made to the project. Created and maintained cost database and reports for $13 Million annual Newark Airport major work program projects.

O'Brien Kreitzberg, Inc.

- **New York Department of Transportation, St. George Ferry Terminal Renovation, Staten Island, NY.** *Office Engineer.* Responsible for tracking of submittals and requests for information. Created and maintained project master schedule for this $20 Million wharf and ferry slip renovation. Developed and issued weekly and quarterly cost and schedule status reports.
- **New Jersey Department of Transportation, Ewing, NJ.** *Scheduling Manager.* Supervised four schedulers to create design phase schedules for a $2.4 Billion pilot program. Developed scheduling standards and procedures for capital program. Designed and managed the development of the Project Management Control System (PMCS), allowing real time access to project schedule and cost information; system fed a Department-wide monthly executive status report. Responsible for coordinating the implementation of the PMCS and project controls process (scheduling, cost, reporting) with Project Management and Design Units. Identified and categorized more than 28,000 jobs into distinct projects for the classification and cost control of a $3.5 Billion capital program. Created format for reporting of in-house project costs and forum for Project Manager approval of these charges.
- **New York City School Construction Authority, Long Island City, NY.** *Scheduling Engineer.* Developed and updated project master schedules that tracked projects from scope through closeout for 200 major construction projects. Assisted in designing a user-friendly schedule and cost reporting system used by over 300 users; wrote user's manual and trained users. Developed model to determine annual level of full-time employees needed for a $5 Billion Capital Program.
- **Metropolitan Transportation Authority, New York, NY**. *Scheduler.* Reviewed and analyzed contractor project schedules. Maintained and enhanced database of project concerns; used data to develop quarterly statistical report. Developed, authored, and issued a project procedures manual improving productivity and enhancing performance and quality of service.

Eastman Kodak

- **Rochester, NY.** *Industrial Engineer.* Maintained cost and schedule controls for development of waste tracking system. Led production team to design and implement data handling system.

DANIEL B. MESNICK
Planning Coordinator

EDUCATION:
MCP, Massachusetts Institute of Technology in 1985
Master's thesis in Track Deterioration Modeling and Maintenance Management
BA, Economics, Antioch College, 1979
Adjunct Professor (Former) Department of Civil Engineering, CUNY Graduate Center

PROFESSIONAL AFFILIATIONS:
Member, Transit Design and Engineering (Committee 12), AREMA
Past Member, Railroad Track-Structure Design Committee (A2M01), TRB
Member and Past Secretary, Railway Maintenance Committee (A2MO6), TRB
Member/former Secretary, Committee on Track Design, Noise & Vibration, APTA
Past Member, Education and Training Committee (Committee 24), AREMA

PROFESSIONAL EXPERIENCE:
Mr. Mesnick has 30 years of experience in the railroad and transit industry. His expertise is in rail and transit track engineering and maintenance of way planning and costing as well as developing capital investment programs to achieve a state of good repair for existing properties. He also has experience in track engineering, line construction engineering management and oversight, track deterioration modeling, and maintenance planning, track production equipment productivity improvement and training, track program planning and capital renewal assessment, track component condition assessment, and developing training and quality control programs for rail and transit track inspection and track production staff. His experience includes the specification of track component systems, including Direct Fasteners and Special Work.

Mr. Mesnick was Manager, Track and Structure Department, New York City Transit from 1986 to 1991 during the second major Capital Program after years of deferred maintenance. In this position, he was coordinated track and structures Capital Rehabilitation with Rapid Transit Operations. He used condition assessment surveys mainline from a database he devised to plan and prioritize the work. He developing work plans to get track, third rail, power and structures work based on where, when and how work would be planned. In this capacity, Mr. Mesnick communicated with stakeholders to plan and program track outages for rehabilitation and construction. General Order (GO) track closures were coordinated with Operations in order for the work to be done at night or during 56 hour weekend closures. The goal was always to minimize passenger disruption. This work required close coordination with both in-house and contractor forces as well as the logistical requirements associated with getting the work gangs, heavy equipment, components and shop fabrications staged for construction to maximize productivity with flagging, work equipment, track , signal and communications, and power distribution departments. The initial Capital work focused on track, structures and contact rail renewal while the later on stations and platforms. A key consideration of this work was the planning and execution work that needed to be done versus the layout of the work zone staging options and whether single tracking was possible where bi-directional signaling existed to avoid station to station busing. Mr. Mesnick's communication and negotiation skills were a key part of his success at NYCT. Ongoing coordination meetings with held with departmental stakeholders so a clear work plan could be devised with each stakeholders role clearly defined in advance of the actual job. The process included whether maintenance and repairs could be done to track and special work to move from Red conditions to Green in order to minimize slow orders or where out-of-face renewal was both necessary and warranted within a work area. Understanding the steps to execute the work together with strong communication and negotiation skills was the key to success.

As a contractor, Mr. Mesnick developed a track surfacing program for the Long Island Railroad which is used to this day to train field staff in how to track production tampers to achieve Class IV track within short work windows during off peak periods so high quality track line and surface could be achieved within work zone limits during tightly scheduled off peak periods. His firm developed a comprehensive track production and surfacing program including all work equipment and gang responsibilities to achieve high quality track geometry while restoring state of good repair.

Mr. Mesnick has also developed and assessed rail Operating Plans and strategies to improve service delivery and train performance. Mr. Mesnick has been involved in the FTA Alternatives Analysis process for rail extensions and new starts.

Prior to joining Berger, Mr. Mesnick founder and principal for 15 years of TransTech Management, a rail and transit analytical consulting firm specializing in rail operations and engineering, rail MoW production planning, track assessment and engineering and technology development firm. Before establishing TransTech Management in January 1992, he was a senior consultant at Arthur D. Little, Inc. where he worked for in the transportation practice group for two years. Prior to that, Mr. Mesnick was project manager for track construction, engineering, capital and maintenance planning at New York City Transit for six years. Mr. Mesnick was a rail planner at Parsons, Brinckerhoff Quade and Douglas for a year where he was heavily involved in ridership modeling and Alternatives Analysis for New Starts. He was also an operations research analyst at the Transportation Systems Center USDOT for two years. Sample experience includes:

- **Massachusetts Bay Transportation Authority (MBTA), 12 Bridges Rehabilitation, Boston, MA.** *Track Engineering Team Leader.* Mr. Mesnick worked with a team to win a $3M bridge design and engineering project to design new rehabilitation plans for 12 rail bridges across the MBTA system including both rapid transit and commuter rail. This work is ongoing.
- **Public Transportation Safety Board of Pennsylvania, USA, Southeast Transportation Public Transit Authority (SEPTA) and Port Authority of Allegeheny County (PAT) Track Condition, Inspection and Development of Maintenance Practices**. *Track Safety Manager.* Mr. Mesnick was responsible for track inspection, condition and maintenance assessment of the SEPTA and PAT track engineering, design and safety reviews. This was a five-year contract where track condition assessment was done and track condition and maintenance of way standards reporting and manuals were reviewed and developed.
- **Long Island Railroad, Track Surfacing Training Program, Hollis, NY.** *Track Standards and Surfacing Consultant.* Developed a series of computer based track surfacing, gage, cross level and lining program for Plasser 4 by 4 tampers used by the Long Island Railroad (LIRR) to maintain Class IV revenue track systemwide.
- **Toronto Transit, Track Patroller Inspection and Maintenance System, Toronto, Canada.** *Track Inspection and Construction Consultant.* Assessed and re-wrote Toronto Transit Commission`s track inspection procedures and policies related to safety critical walking inspection of subway, at-grade and aerial structure revenue track. Developed a complementary training system to train, certify and re-certify track patrollers in the field using a set of interactive training modules.
- **Transit Cooperative Research Program (TCRP) D-5 Assessment of Direct Fixation (DF) Systems (U.S.), Boston, MA.** *Co-Author, in conjunction with Battelle Labs.* Conducted a North American transit property survey to characterize DF performance in-situ, field inventory by type, and identify installation, load environment, maintenance requirements and life cycle costs. Laboratory tests and analytical methods were used to develop performance-based DF procurement guidelines for the transit industry.
- **Washington Metropolitan Area Transit Authority (WMATA), Development of WMATA Track Safety Standards, Washington, DC**. *Member of the Risk Assessment Team.* Mr. Mesnick lead a review of including investigation in the field of work completed, a review of existing maintenance of way standards, and an analysis of records and data concerning defects detected and repaired. The review was conducted in response to questions regarding trackwalker inspection efficacy. A series of track inspection force management changes were implemented following recommendations.
- **Southern New Jersey Light Rail Transit (SNJLRT), Newark, NJ.** *Member of the Design-Build-Operate-Maintain (DBOM) Team.* Mr. Mesnick developed the preliminary engineering design standards for DF track systems including slab and ballasted track, and special work designs. Track inspection, track component defect limits and track geometry limits were developed for each track design specified. Performance standards were developed for track construction on shared right of way.

JAMES J. MURRAY, P.E.
Planning Coordinator

EDUCATION:
B.S.C.E, New Jersey Institute of Technology

PROFESSIONAL REGISTRATIONS:
Professional Engineer, New Jersey
Professional Planner, New Jersey (inactive)

PROFESSIONAL EXPERIENCE:
Mr. Jim Murray is a Project Manager and Professional Engineer with thirty years of increasing responsibility on widely diversified transportation infrastructure projects, including both highway and transit, for a variety of city, state and federal transportation agencies in the greater New York Metropolitan area. Project work includes feasibility studies through final design and construction, with estimated construction costs exceeding $1 billion, for clients including PANYNJ, NYSDOT, MTA NYCT, MTA LIRR, NYCDOT, NJDOT, NJTA and NJHA. Has managed contract negotiation, planning, scheduling, project controls, supervision and financial performance as well as business development. Technical skills include planning, analysis, design, specifications and estimates for highway and transit projects. Relevant project experience includes the following:

- **Port Authority of New York and New Jersey (PANYNJ), Downtown Restoration Program, New York, NY.** *Assistant Program Manager.* Assists the Port Authority of New York and New Jersey by: Preparing PATH Construction Agreement with FTA and grant actions; Preparing Project Management Plan; Involved with NHPA Section 106 compliance; Providing executive and project status reporting and documentation; Developing program schedules and timelines, cost estimates and budgets; Performing other support functions.

- **Long Island Rail Road, East Side Access to Grand Central Terminal, New York, NY.** *Deputy Director, Systems Design.* Project consisted of constructing a $6.3 billion tunnel into Grand Central Terminal. Responsible for coordinating designs for power, communications, signals, fire life safety and mechanical designs with heavy civil and structural designs. Responsibilities included identifying and tracking systems design elements to ensure integration with facilities and tunnel designs both in terms of design schedules and design responsibilities with the Tunnel Engineer, as well as the spatial integration of construction. Prepared Primavera (P3) project schedules to validate the master schedule and verify interfaces between the Systems and Tunnel Engineering teams. A significant accomplishment included writing a space allocation plan for the tunnels and ancillary spaces for railroad and support utilities, culminating in a detailed presentation of the report to the engineering department. The allocation plan included traction and facility power, communications, signals, fire suppression and life safety, and facility power and HVAC. The required facilities included space for conduit and pipe, splice chambers for the distribution systems as well as the sizing of the facility rooms themselves, and developed a database for the tracking and management those spaces. As a quality management function, created a CAD drawing set to establish a regimented way to investigate interdisciplinary interfaces. Coordinated the contract packaging and estimating of systems contracts, including trending changes to scope and construction cost.

- **New York City Office of the Mayor, City Island Bridge Value Engineering Study, New York, NY.** *Lead Civil Engineer.* Reviewed the civil / highway aspects of a proposed replacement of the City Island Bridge with a cable-stayed bridge option. The project included development, review and presentation of a number of alternatives for structure types, alignments, utility impacts and construction methods.

- **New York State Department of Transportation, Cross Bronx Expressway Signing and Lighting, Bronx, NY.** *Project Manager.* The project included construction of sign structures and roadway lighting on portions of the Cross Bronx Expressway, Hutchinson River Parkway and Bruckner Expressway.

- **New York City Department of Transportation, Traffic Engineering and Design, New York, NY.** *Project Manager.* Miscellaneous task order assignments including pedestrian and safety improvements on Atlantic Avenue, Brooklyn and Queens, safety improvements on Hylan Boulevard, Staten Island. Work included traffic data collection, surveys, alternatives analysis and conceptual design. Prepared Primavera Suretrak schedules and Excel spreadsheets for project management.

- **New York State Department of Transportation, Route 9A Program Management and Coordination, New York, NY.** *Project Deputy Project Manager.* PMC² JV. Provided program management and coordination service for the reconstruction of Route 9A adjacent to the World Trade Center. The project included bypass tunnel and at-grade alternatives with a total cost of approximately $1 billion. Responsible for coordination of project elements with adjacent projects including the PANYNJ for the WTC site and permanent PATH Station, and the MTA for the Fulton Transit Center and South Ferry project, as well as public and private utilities affected by the project. Wrote procedures for NYSDOT to coordinate Route 9A work with external partners, targeting levels of responsibility for decision making within the NYSDOT team. Coordinated Route 9A work with PANYNJ projects, focusing on issues such as ventilation, security, and construction phasing and estimates. Coordinated the design and construction schedule for the work of the NYSDOT design teams and with external parties. Prepared Primavera (P3) project schedules and developed standardized management reports. Coordinated computer visualization efforts and prepared document control procedures. Utility coordination included meeting with stakeholders, Con Ed, ECS, Verizon, NYC DEP and others, to identify needs and concerns of all parties, with the goal of streamlining the utility construction necessary to facilitate the Route 9A reconstruction.

- **MTA, Improvements to MTA Bridges and Tunnels Facilities, New York, NY.** *Project Manager.* Repairs and replacement of toll canopies at the Brooklyn Battery Tunnel and Tri Borough Bridge toll plazas.

- **Government of Moron, Autopista Moron, Buenos Aires, Argentina.** *Principal Civil Engineer.* Value engineering study of an 8.5. km four-lane toll road in Buenos. Responsible for plan review, site inspection, review of available technology, development of alternatives and estimates and recommendation for value engineering improvements.

- **New York City Transit, LaGuardia Airport Subway Access, New York, NY.** *Design Manager.* Infrastructure and Systems Engineering, HDU JV. On behalf of NYCT, provided conceptual design and evaluation of new transit service options to LaGuardia Airport, including N Line subway extension. Responsibilities included preliminary track alignments, construction methods, impact assessments, and coordination of engineering and architectural disciplines. Special requirements of the project included coordination with the PANYNJ for reviews of possible above grade and underground construction on and adjacent to the airport.

- **New York City Department of Transportation, Traffic Signalization, Brooklyn, Bronx, and Queens.** *Project Manager.* The purpose of this project was to provide centralized management to 2,000 intersections. Responsible for the development of a communications strategy, data collection, preparation of design documents and estimates. Developed Access database for collection and validation of inventory data and proposed improvements. Prepared P3 schedules and Excel spreadsheets for project management.

PAUL J. DEMEO

Program Management Systems Specialist

EDUCATION:

B.S., Civil Engineering, University of Notre Dame
B.A. University of Notre Dame

PROFESSIONAL AFFILIATIONS:

National Transportation Research Board
American Association of Airport Executives
Project Management Institute

CERTIFICATIONS:

Professional Engineer, PA

PROFESSIONAL EXPERIENCE:

Mr. Paul DeMeo is the Senior Vice President for Management Systems with the Louis Berger Group and possesses over 40 years of experience in Program Management, Construction Management, Civil Engineering and Project Control System development. He is currently supporting a wide range of projects, performing management analyses, configuring and implementing systems, supporting project control assignments and staffing new programs. Some of his recent assignments include the NYC Economic Development Corporation ***Systems Analysis***, the Joint Guam Program Office ***Project Control Implementation***, the Port Authority of NY & NJ ***PMO Assessment***; the UAE Department of Municipal Affairs (Al Salam Street Reconstruction) ***Risk Analysis and BIM Implementation***, the NYC School Construction Authority ***Primavera Systems Implementation***, the Office of the Federal Detention Trustee ***County Database Development***, the Philadelphia Housing Authority ***Scheduling Support***, and the Washington State Department of Transportation ***Program Management Organization Study***. Other major assignments include:

- **Port Authority of New York and New Jersey (PANYNJ), Downtown Restoration Program, New York, New York**. *Senior Program Manager* on the FTA funded $3+ B World Trade Center (WTC) PATH Terminal Project, the $478M WTC Security Center and Tour Bus Facility Project, and WTC Site Planning and Development. Responsibilities include coordination with over $11B in Lower Manhattan projects, including the Freedom Tower, the WTC Memorial, the Fulton Street Transit Center, the West Street Development and other transportation infrastructure projects. Mr. DeMeo was previously assigned as Program Manager for the $544M Downtown Restoration Program consisting of three projects: the expansion of the Exchange Place Station (tunneling, new switches and extended platforms); the restoration of the tunnels under the Hudson River connecting Exchange Place with New York; and the construction of a new terminal at the site of the former World Trade Center. Responsible for executive reporting, analysis of cost and schedule variances, public relations (including web site development, presentations and computer animation), and coordination among the various stake holders. Mr. DeMeo was recognized with the James G. Hellmuth citation for meritorious service for his participation in this latter role.
- **Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Redevelopment Program, Newark, NJ**. *Senior Program Manager*. Responsible for overseeing the current $780M Redevelopment Program at Newark International Airport which includes new parking structures, and expanded roadway system, a new administration/ARFF facility, improved taxiways and RON aircraft parking. Involved with initial planning, scope definition, model design, budgeting, scheduling and public relations. Responsible for coordinating client activities with the Continental Global Gateway Program, which involves extensive development at Terminal C.

- **Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Monorail/Northeast Corridor Connection (NEC) Program, Newark, NJ**. *Program Manager* for this $415M program extends the on-airport Monorail system approximately 1 mile to a new NEC Station. The station is composed of three major elements: two 32 feet wide and 1050 feet long NEC platforms, a 350' connecting Concourse and the Monorail Station. The program required increasing the number of electrified tracks along the corridor, in the area of the station, from four to a total of six. Reported to the client Program Director and was responsible for overall coordination among design, management staff and construction contractors. Provided Program Management Services including: the establishment of the project's work breakdown and charge code structures; project authorization; project and annual budgeting; CPM scheduling; earned value analysis; actual expenditure and accruals monitoring and audit; cost forecasting and problem resolution analysis; document control; local area network administration; database application development; management presentation preparation; public relations, and weekly, monthly and annual status report preparation.
- **Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Landside Access Project, Newark, NJ**. *Program Manager*. Responsible for managing the $100M Landside Access Project that involved airport approach and circulation roadways as well as bridges and ramps. Initial responsibilities included project definition, phasing and authorization. Program Management responsibilities included annual and project budgeting, coordination of design and construction, summary scheduling, cost forecasting, earned value analysis, progress reporting, and problem definition and resolution.
- **Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Monorail, Newark, NJ**. *Program Manager*. Responsible for the $378M Monorail system which connects parking areas with the passenger terminals. Wrote a Program Management Manual defining organizational and communication standards, program policy and procedures, as well as reports and forms used by the staff. Prepared both program and executive level status reports; chaired monthly status meetings. Designed and deployed a Document Control System featuring document scanning and optical disk storage. Established a 100-user "campus" area computer network linking the Program office with field trailer operations.
- **Port Authority of New York and New Jersey (PANYNJ), Newark International Airport – International Arrivals Facility, Newark, NJ**. *Project Manager*. Responsible for managing the $120M three-story structure that was constructed on the airside of Terminal B. The building was constructed adjacent to active apron areas; a service roadway and several baggage cart ramps ran through the site. Wrote the Project Authorization, participated in value engineering and partnering activities, coordinated design and construction activities, produced project cost and schedule reports and developed a fire safety operations manual and airside security procedures.
- **Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Monorail, Newark, NJ**. *Program Manager*. Responsible for the $378M Monorail system which connects parking areas with the passenger terminals. Wrote a Program Management Manual defining organizational and communication standards, program policy and procedures, as well as reports and forms used by the staff. Prepared both program and executive level status reports; chaired monthly status meetings. Designed and deployed a Document Control System featuring document scanning and optical disk storage. Established a 100-user "campus" area computer network linking the Program office with field trailer operations.
- **K&H Management Systems, Inc., Sparta, NJ.** *Project Manager*. Managed a staff of over 40 employees to develop and market CUE, an interactive project control system. Responsibilities included concept definition, cost/benefit analysis, staffing, design specifications, testing, documentation, training and bringing the system to market. Managed the implementation of the system at over 100 client sites. Developed marketing material (brochures and presentations); wrote proposals and conducted negotiations with clients.

VADIM AKOPYAN
Sharepoint Technician

EDUCATION:
MS, Computer Science, Oil Academy, Baku, Azerbaijan/USSR, 1989
BS, Computer Science, Oil Academy, Baku, Azerbaijan/USSR

PROFESSIONAL CERTIFICATIONS / TRAINING:
2009, COGNOS 8 BI Partner Essentials Course
2009, Microsoft Windows SharePoint Services 3.0: Application Development
2008, Designing & Developing Web-based Applications Using Microsoft .NET Framework
2007, Microsoft .NET Framework 2.0: Web-based Client Development
2006, Microsoft .NET Framework 2.0: Application Development Foundation
2005, Developing & Implementing Web Applications with Microsoft Visual C# .NET & Microsoft Visual Studio .NET
2005, Developing XML Web Services & Server Components with Microsoft Visual C# .NET & Microsoft Visual Studio .NET Framework
2003, Analyzing Requirements & Defining Solution Architectures
2003, Designing & Implementing Databases with Microsoft SQL Server 7.0
2003, Designing & Implementing Distributed Applications with Microsoft Visual C++ 6.0
2003, Designing & Implementing Desktop Applications with Microsoft Visual C++ 6.0

TECHNICAL SKILLS:
MS Visual Studio 2008 .NET(c#), Microsoft Office SharePoint Portal Server 2003/2007, MS SQL Server 2005, MS BizTalk Server 2006, MS SQL Reporting Services, Ajax, XML Web Services, ASP, ASP .NET, XSLT, HTML, JavaScript, COGNOS

PROFESSIONAL EXPERIENCE:
Mr. Vadim Akopyan possesses 17 years of professional experience with a track record of delivering sound technical solutions, effective project management and team leadership. He has six years of professional IT experience in SharePoint and .NET technologies and four years of experience in developing Portal applications using Microsoft Office SharePoint Server 2007 (MOSS 2007) and Windows SharePoint Services (WSS). Other SharePoint Server skills / experience include: SharePoint site creation, customization, content management, collaboration, Custom Web Parts, and Master Pages; developing Custom Workflows using Visual Studio 2005/2008; developing Forms Services using InfoPath 2007; developing reports using Excel Reporting Services; and developing Web Applications using ASP .NET, C#.NET, ADO.NET, Visual Studio with Microsoft .NET Framework 3.0 and 2.0.

- **Qatar Project Management, Executive Reports System, Doha, Qatar**. *SharePoint Applications Developer.* Develops SharePoint applications for Executive Reports. Plans and develops meta data structure for Document Management System (SharePoint based). Provides QPM SharePoint administrative staff training and consulting.
- **Federal Emergency Management Agency, FEMA Support Project, New Orleans, LA.** *SharePoint Applications Developer.* Creates and implements overall information structure for project management system on the existing SharePoint 2003 site. Provides SharePoint usage consulting.
- **United States Navy, Joint Guam Program Office, Washington, DC.** *SharePoint Applications Developer.* Develops the Joint Guam Program Office SharePoint site using Key Performance Indicators (SharePoint BI capability). Attended COGNOS 8 BI Partner Essentials training.
- **Port Authority of New York and New Jersey, Newark Liberty Airport Terminal A Proposal, Newark, NJ.** *SharePoint Applications Developer.* Developing the new Terminal A Executive Report SharePoint application.
- **Port Authority of New York and New Jersey, Port Authority Real Estate Site Proposal, New York, NY.** *SharePoint Applications Developer.* Developing a 3D navigation map for the Port Authority Real Estate proposal. Developing a template based site meant to introduce real estate.

- **New Jersey Transit, Transit Planning Database Proposal**, **New Jersey.** *SharePoint Applications Developer.* Developing SharePoint templates for content and interactive pages, MS InfoPath forms for stations search and compare capabilities.

RidgeSystem, Inc.

- **Brooklyn, New York.** *SharePoint Consultant,* Designed Project Management Information System using MOSS 2007 that provided project management, collaboration, document management and bug tracking capabilities to key stakeholders. Collected and analyzed business requirements from aggregated view and status reports. Developed custom web-parts for bug tracking alerts and Executive reports. Programmed SharePoint custom form authentication and security for outside customers and partners.

I-TECO

- **Portal for Government Customs Agency, Moscow, Russia.** *Lead Developer.* Designed and developed federal customs service Internet portal. The purpose of this portal was to collect information from customers who wanted to declare their goods prior to moving across country borders. The portal system was integrated with the agency's back end systems to establish business procedures. Defined efficient, secure model for portal by using digital certificates, secure socket layer, web-based InfoPath forms, WWF. Platform: Microsoft Office SharePoint Server 2007, Form Server, Web-based InfoPath forms. Tools and technologies used: MS Visual Studio 2008 .Net (c#), Web Parts, CAML, SharePoint features, Windows WorkFlow Foundation, Digital Certificates, SSL, Custom Forms Authentication.

IBS (IT Consulting Company)

- **IBS, Corporate Portal, Moscow, Russia.** *Lead Developer / Project Lead.* Developed a staff directory system that included data access layer, business rules layer, and user interface layer utilizing Business Data Catalog for accessing back end systems. Defined custom BDC definitions for MS SQL Server, Oracle and Lotus Notes data sources. Developed custom list definitions and custom field definition for staff directory. Created custom event handlers and Web Services for business layer. Developed a rich user interface layer that consisted of custom list display forms, .NET Ajax Extenders, CSS, and JavaScript. The system was finished and deployed to production servers in a short period of time and increased productivity of all IBS employees. Platform: Microsoft Officer SharePoint Server 2007, MS SQL Server 2005. Tools and technologies used: MS Visual Studio 2008 .Net (c#), Web Parts, Business Data Catalog, .NET Ajax Extenders.
- **Renova Group, Corporate Portal**, **Moscow, Russia.** *Lead Developer / Project Lead.* Developed service systems for staff based on the SharePoint Corporative Portal. Created InfoPath Server Forms hosted on portal forms library. Developed web parts for discussion rooms' reservation. Designed managed code for business processes based on Windows Workflow Foundation. Responsible for application project management and overall project architecture including estimation of project's time and costs, defining tasks for team of three developers who worked remotely, checking results, and deploying all parts of project to production area. Platform: Microsoft Office SharePoint Server 2007, Microsoft Office InfoPath 2007. Tools and technologies used: MS Visual Studio 2005 .Net (c#), Web Parts, Windows WorkFlow Foundation.
- **Gazprom Neft Oil Company, Corporate Portal**, **Moscow, Russia.** *Lead Developer / Project Lead.* Developed monitoring system for oil upstream based on SharePoint Portal. Designed MS SharePoint web parts and MS SQL Server 2005 stored procedures. Platform: Microsoft Office SharePoint Server 2007, Microsoft Office InfoPath 2007. Tools and technologies used: MS Visual Studio 2005 .Net (c#), Web Parts, Windows WorkFlow Foundation.

Urban Engineers

Victor R. Simuoli, PE

Senior Planning Manager

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WHY SELECTED

- **28 years of project management and systems engineering experience**
- **Managed the successful implementation of a transit mega project**
- **Sr. Manager - MTA Transit Agencies**

REGISTRATIONS/ MEMBERSHIPS

- Professional Engineer NY
- Institute of Electrical and Electronic Engineers (IEEE)
- Construction Management Association of America (CMAA)
- Transportation Research Board (TRB)

EDUCATION

MS, 1984, Polytechnic University, Electrical Engineering

BS, 1982, Polytechnic University, Electrical Engineering

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Simuoli has extensive experience in project management and systems engineering with qualifications in transit systems engineering, management and implementation, and demonstrated experience in successfully managing large scale and diverse projects from inception through completion. Prior to joining Urban Engineers, Inc., Mr. Simuoli was a senior associate at an international consulting firm that provided technical and project management support to the Port Authority of New York/New Jersey for the design and development of the JFK AirTrain ($1.9 billion project) and to New Jersey Transit for the River Line Light Rail System ($500 million project). In addition, Mr. Simuoli previously served as Director of Engineering at MTA New York City Transit and as a Senior Capital Program Manager at MTA Long Island Bus. Prior to his experience in the transportation industry, Mr. Simuoli was involved in major technology projects for the federal government in the defense industry.

His experience includes project management, construction management, design engineering, and testing and commissioning. Mr. Simuoli had successfully managed and overseen large, technically complex transit projects in challenging operating environments. Mr. Simuoli's experience includes:

URBAN ENGINEERS of N.Y. PC, 2004 - PRESENT

Project Management Oversight Consultant, Federal Transit Administration - Currently providing project management oversight for the FTA of the New York MTA Capital Program. Responsible for the oversight of New York City Transit Signals and Systems capital projects valued at over $1.1 billion. Projects include the Automatic Train Supervision (ATS); Communications Based Train Control (CBTC) Canarsie Pilot; Public Address/Customer Information System (PA/CIS); Flushing Interlocking Phase II; and the Concourse Line Signal Modernization projects. Also responsible for the oversight of the Long Island Rail Road Capital Program valued at approximately $250 million. Performed risk assessments for the systems portion of two major New Start projects: the Second Avenue Subway Phase 1, valued at $3.8 billion; and the East Side Access project, valued at $6.3 billion. Worked with MTA Capital Construction's Second Avenue Subway management team to help them develop an acceptable Safety and Security Management Plan (SSMP).

Integrity Monitoring Consultant, Port Authority of NY/NJ - Currently providing integrity monitoring services for the construction of the Freedom Tower. Served as the Deputy Director of Engineering for first six months of the contract and currently serves as the senior

systems engineer. Provides engineering support and expertise in the areas of construction management, project management and control processes, as well as providing support to other integrity monitoring functions including investigation, forensic accounting, and executive management.

BOOZ ALLEN HAMILTON

JFK AirTrain, Port Authority of New York/New Jersey- Systems Project Manager providing project management and systems engineering expertise for the JFK AirTrain, a $1.9 billion fully automated light rail system built at JFK International Airport that opened successfully in December 2003. Managed a consultant budget of over $2.5 million a year and led a team of twelve technical and rail operations professionals during the design, procurement, fabrication and testing and commissioning of the system. Responsibilities and accomplishments in this position included:

Participated in the proposal evaluation process and counseled the Port Authority during contract negotiations and the development of a conformed Design Build Operate and Maintain (DBOM) contract. Analyzed cost proposals and developed a milestone payment scheme for the systems portion of the contract. Developed the design review process for the systems portion of the Contract and led the preliminary and final engineering design reviews for the System. Directed and guided systems integration and engineering activities (Automatic Train Control, Communications and SCADA, Vehicles, Operations and Maintenance, Reliability, Availability, Maintainability and Safety, Security, and Fare Collection). Successfully managed and led the system testing and commissioning activities through demonstrated system operation and system opening. Key systems liaison with Port Authority senior project managers responsible for infrastructure/ facilities and oversight of the operations and maintenance of the AirTrain system. Prepared and presented technical briefings on key systems issues to the Port Authority Program Director. Provided strategies for the resolution of resource, scheduling and technical issues.

Southern New Jersey Light Rail System (River Line), New Jersey Transit - Lead Systems Engineer for the New Jersey Transit River Line Light Rail Transit System. Led the preliminary and final bid evaluation effort for the systems portion of the project. Developed specifications for the rail signaling and traffic control interfaces at grade crossings and control center interfaces with communications and signaling systems, and prepared and delivered industry review presentations in these areas.

Sam Tran Radio Replacement/AVL Project, San Mateo County, CA. -Provided a cost benefit and feasibility analysis for a proposed advanced communication system for the SamTran bus fleet in San Mateo County. The proposed system included a GPS-based Automatic Vehicle Location (AVL) System and a new transit radio system.

MTA NEW YORK CITY TRANSIT

MTA, New York City Transit, Engineering Director - Led the technical and administrative project management of a multi-million dollar, interdepartmental Automatic Vehicle Location and Control (AVLC) pilot project utilizing Global Positioning Satellite (GPS) technology to locate and track buses in real-time and provide real-time customer information at bus stops and kiosks. Participated in the development of technical specifications, contract negotiations, and proposal evaluations; developed the project management plan, and an operational test and evaluation plan which was to be used to determine the feasibility of implementing the AVLC system throughout New York City.

John T. Groses Jr., EIT

Field Coordinator

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WHY SELECTED

- **32 years of professional experience**
- **Experience with Force Account**
- **Experience working in active rail territory**

REGISTRATIONS/ MEMBERSHIPS

- Engineer in Training PA
- Construction Management Association of America (CMAA)
-

EDUCATION

BS, 1977, Lehigh University, Civil Engineering

Certificate, 2006, Urban Engineers, Inc., Project Management Training

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Groses has more than 31 years experience in construction management having served as a Project Manager, Resident Engineer, Construction Engineer, Operations Coordinator, Project Engineer, and Schedule Engineer for projects that involved building construction, land beautification, public transit system development and rehabilitation, and bridge and roadway construction. Mr. Groses has progressively handled more responsible positions in construction management and the design/construction of railway and transit system elements. Eleven of those years were spent working for Amtrak in their Track Department within the Maintenance of Way Division. Mr. Groses' relevant experience includes the following:

PATCO Rehabilitation of Track Structure on the Collingswood Viaduct, Delaware River Port Authority, Collingswood, NJ - Currently serving as a Resident Engineer on this $12 Million project for the replacement of the existing direct fixation fastening system, along PATCO's Collingswood viaduct, with the DRPA's selected PANDROL PANGUARD fastener system which meets the platform height constraints, as well as reducing noise and vibration. Other contract work includes selective demolition and concrete repair, approach slab rehabilitation, drainage improvements, electric traction system work, and asbestos containing materials remediation. Responsibilities include development of project control and record keeping procedures; coordination with community, government and local businesses; conduct bi-weekly progress meetings and go/no-go meetings as necessary; serve as liaison between the contractor and the DRPA and PATCO staff in regard to scheduled closures, staging, operations; transmission and tracking of submittals/shop drawings; monitor the work of the contractor and any subcontractors; and develop and implement a system for the preparation, review, processing, and monitoring of change orders and a project cost control system. (June 2008 - Present)

Frankford Transportation Center (FTC) Program, Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, PA - Served as Operations Coordinator (Bus, Trackless Trolley, Subway Elevated) and Resident Engineer for this six-year, $190 million FTC program to replace the existing Bridge-Pratt Terminal with a modern intermodal transportation facility located at the northern terminus of the Market-Frankford Subway Elevated Line. The program included FTC-2 (Bus Depot and Pratt Corner Building)- this $8 million, multi-prime project provided space for the construction of the new terminal building and guideway projects; FTC-3 (Guideway and Systems)- this project involved constructing an elevated guideway from Dyre Street to the west side of the terminal building and from the east side of the terminal building to Bridge Street Yard; FTC-4 (Terminal and Sitework) - this multi-prime

project involved the construction of the new Frankford Transportation Center Terminal Building, guideway for the Frankford Elevated Rail Line through the terminal platform, and bus facilities at grade level; and FTC-6 (Bridge Street Yard Modifications)- this project involved obtaining and installing special trackwork including turnouts, track and contact rail and rail bonding for signals and traction power. As Resident Engineer of the FTC-2 Project, Mr. Groses was responsible for coordinating the three prime contractors' work schedule while maintaining uninterrupted bus and trackless trolley operations; managing the inspection of all work; facilitating the review and response to all project correspondence; holding biweekly progress meetings and special meetings as required; monitoring change orders; and identifying all non-conforming contractor work for correction. As Operations Coordinator, Mr. Groses was responsible for coordinating all contractor work activities for the FTC-3 and FTC-4 projects with bus, trackless trolley, and subway/elevated SEPTA personnel so that operations are maintained and passenger inconvenience was minimized.

Greenwich Intermodal Yard, CSX Intermodal, Philadelphia, PA- Served as the Construction Engineer for this $18 million CSXI project that developed an intermodal terminal and related railroad facilities within Conrail's active Greenwich Yard in Philadelphia. Work items included demolition, excavation, clearing and grubbing, storm drainage, grading, paving, demolition/construction of track, electrical (high mast lighting, duct bank, transformers, etc.), mechanical (sanitary sewers, water services, compressed air system), erosion and sedimentation control, and wood piles. Mr. Groses' primary responsibilities included facilitating the construction process for the contractor, design engineer and CSXI; and daily coordinating the contractor's work activities with local CONRAIL Transportation and Maintenance of Way (track, electrical, communication, mechanical, etc.) personnel to provide railroad protective services and track outages without disrupting the existing active yard rail lines and facilities. (July 1998 - July 1999)

University City Commuter Rail Station, City of Philadelphia, Department of Public Property, Philadelphia, PA - Served as Resident Engineer on this project which consisted of the erection of a new, multi-level commuter station serving the Southeastern Pennsylvania Transportation Authority's (SEPTA's) Regional Rail Lines. Work included the construction/relocation of a new track structure and associated catenary systems. Mr. Groses' responsibilities included construction management and inspection of a new railbed and track structure, steel catenary foundations and structures, drilled caissons, pile driving, variable width platform with upper level mezzanine ticket booth/station waiting area, and various associated architectural finishes. He also performed office engineer duties and coordinated with SEPTA and Amtrak officials to provide railroad protective services for the construction of this facility which is adjacent to existing passenger train lines. (April 1993 - September 1995)

Railroad Access to Epsilon, Sun Oil Refinery Company, Marcus Hook, PA - Mr. Groses served as Resident Engineer for inspection services on a major track project for the Sun Oil Refinery Company. Project involved constructing new track and rehabilitating existing track. This work was combined with the building of new railroad structures and protecting underground utilities located within the property of two major chemical facilities. Coordination with Conrail, General Chemical Corporation, and the Allied/Signal Corporation was necessary to maintain daily access to existing rail lines and facility structures, which was of the utmost importance in the execution of this project.

Northeast Philadelphia Industrial Park Track Relocation, Philadelphia Industrial Development Corporation, Philadelphia, PA- Mr. Groses performed inspection and design services for the rehabilitation of trackage in the Northeast Philadelphia Industrial Park.

Richard F. Hill, PE

Field Coordinator

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WHY SELECTED

- **46 years of professional experience**
- **Extensive transit experience**
- **Experience working on projects involving PANYNJ (Newark Monorail Connection)**
- **Previous employment with Amtrak**

REGISTRATIONS/ MEMBERSHIPS

- Professional Engineer PA
- Professional Engineer NJ
- American Railway Engineering and Maintenance Association (AREMA)- Member of Committee 11 (Commuter Rail) and Committee 17 (High Speed Rail)
- Chairman of the Committee 11 & 17 subcommittee for developing seminars on Passenger Railroading
- American Public Transit Association (APTA)
- American Society of Civil Engineers

EDUCATION

MCE, 1971, Villanova University, Civil Engineering

BCE, 1963, Villanova University, Civil Engineering

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Hill has extensive Mega Project experience as a Civil Engineer in both Design and Construction. At the Pennsylvania Department of Transportation, he was the project manager for the Interstate 95 Highway Project through Center City Philadelphia, which included a major 8 lane bridge over the Schuylkill River, Interchanges with both the Walt Whitman and Benjamin Franklin Bridges over the Delaware River, two transit stations on SEPTA's Market Frankford Subway/Elevated line and relocation of the Market Frankford line into the median. At Amtrak, he was the Director-Contract Construction for the NECIP Project between Boston, MA and Washington, DC. He also directed all contracted construction for the NE Corridor for 13 years. This included the initial work on the Electrification Project between New Haven, CT and Boston, MA. For 6 months he was responsible for Amtrak's National Contracted Construction. Currently, Mr. Hill is the FTA, Senior Project Manager for the FTA's Second Avenue Subway Project in New York City. Mr. Hill has extensive experience in program management and construction management of major highway, rail and rail transit facilities, planning, scheduling, budgeting and cost estimating, quality control/quality assurance, safety, agency/contractor coordination, documentation, inspection and community relations. Mr. Hill's experience includes:

Urban Engineers, Inc. - April 14, 1998 to Present

Senior Project Manager - Responsible for providing Project Management Oversight (PMO) services to the Federal Transit Administration (FTA) as part of the Urban Engineers PMO team. Mr. Hill performs project oversight of Transit Agencies that receive funding from the FTA to assure the most efficient use of the Public Funding. Current duties include acting as Project Manager (PMOC) on New York City MTA's Second Avenue Subway Project Phase 1, which is estimated $4.866 Billion. Construction of Phase 1 began in the spring of 2007. Mr. Hill has provided support to the FTA and the Grantee in reviewing the various required plans needed to get a Full Funding Grant Agreement. He has been involved in the review and approval recommendation of the Second Avenue Subway's New Starts approval, Approval to Enter Final Design, Early Systems Work Agreements, Project Management Plan, Safety and Security Management Plan, Risk Characteristics, Risk Mitigation Planning Workshops, Before and After Plan, Real Estate Acquisition and Management Plan, etc.

Program Manager - Responsible for SEPTA's Frankford Transportation Center Project, FTC. This was the final part of SEPTA's $650 million Frankford Elevated Reconstruction Project and the largest site specific project in SEPTA's history. The $180 million center, constructed at the northern terminus of the Frankford-Market Elevated/Subway Line, serves as an intermodal transfer point for bus and rail passengers and is expected to promote the economic revitalization of the Frankford neighborhood. The Frankford Transportation Center Bridge-Pratt transit station serves about 50,000 commuters a day. Responsibility included the documentation, inspection, quality assurance,

schedule, contract administration, budget, contractor coordination, safety, cost estimating, etc. for the construction of the Facility. Other duties included interfacing with the client and other agencies, supporting SEPTA's community relations interface between the contractors and the local community, coordinating information between the FTC project and SEPTA Operations and the other programs on SEPTA's Market-Frankford Subway Elevated line.

Senior Project Manager - Responsibilities included providing Project Management Oversight (PMO) services to the Federal Transit Administration (FTA) as part of the Urban Engineers PMO team. Acting as Assistant Project Manager to MARTA in Atlanta and to LYNX in Orlando. Other duties included acting as an assistant to the Senior Vice President for Construction Management in administering the CM group.

DeLeuw, Cather and Company - August 19, 1996 to April 4, 1998

Senior Construction Manager - Responsible for managing the planning, scheduling, budgeting and cost estimating, agency/contractor coordination, inspection, quality control/quality assurance, documentation, etc. for the construction, procurement and railroad force account contracts for the Newark Airport Monorail Connection to Amtrak's Northeast Corridor. The project consists of multiple contracts (Site Development and Foundations, a Major Transfer Station for the Railroad and Monorail, foundations for the Monorail, reconstruction of Conrail's two running tracks from Island Yard to Amtrak's Northeast Corridor, Conrail signal work for the new Bud siding, Amtrak Signal work, Amtrak Track work, Amtrak ET work, Amtrak Switch exchange work for 7 turnouts, two turnout purchase contracts, signal bridge purchase contract, catenary pole purchase contract, construction of 2 new running tracks for the Northeast Corridor, administration of scheduling for New Jersey Department of Transportation's Foundations for Route 21 and Construction of route 21) and will run for three to four years, with a total budget of $120,000,000.

Amtrak

Director Construction Support - Responsible for developing, issuing and implementing engineering and administration policies and procedures for contracted construction. Directed the Northeast Corridor Improvement Project Construction Management, Engineering Support, Quality Control, Training and Safety Units (supervised 32 people). Directed the construction management of more than 80 NECIP, 10 Jobs Bill and 50 Capitol Authorization Request construction projects, including 8 major movable and over ten fixed bridges.

Also, directed the construction of Maintenance of Equipment Service Facilities at Boston, MA, New Haven, CT, Sunnyside Yard, NY, Wilmington, DE and Ivy City, Washington, DC. Each MOE project contained many separate contracts, since each base contains many buildings for the various types of specialty work. In addition to the MOE bases, Maintenance of Way bases were part of the NECIP program. A total of five Maintenance of Way Bases (Odenton, MD, Perryville, MD, Adams Station, NJ, New Haven, CT and Providence, RI) were built, 4 tunnels (Baltimore-3 and New York Penn's Empire Connection), an electric Traction Substation at Sunnyside Yard, NYC, Hotel Power facilities at various terminals, maintenance and service facilities in Sunnyside Yard, Bronx, New York City and Boston, MA, over 20 station projects (New Carrollton, BWI, Baltimore, Wilmington, 30th Street, Trenton, Newark, NY Penn, New Haven, New London, Westerly, Kingston, Providence and Boston South), plus many other specialty contracts.

Assistant Director Engineering Support - Developed an enlarged organization, when Amtrak assumed control of all NECIP construction projects from DeLeuw, Cather/ Parsons. Conceived and implemented permanent teams of engineers and administrators to control all aspects of the contracts as a team. Provided heavy duty engineering support to the field operations (including the reconstruction of 7,200 lineal FT of three Brick Arch Tunnels at Baltimore Station. Controlled all technical and financial aspects of contracts from changes to progress payments and finally claims negotiations.

Michael E. Dunn
Plan Coordinator

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WHY SELECTED

- **40 years of professional experience**
- **Experienced Project Manager**
- **Proven Team Leader**

EDUCATION

BS, University of Michigan, Civil Engineering

Penn State University , Amtrak Project Management Program

University of Virginia, Amtrak Executive Training Program

Wharton School of Business, Fundamentals of Finance and Accounting

Harvard University, Project Management Training

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Dunn has extensive experience in planning, directing, and managing railroad right of way maintenance, production, and capital construction, and station hardening security that includes project planning, design, project controls, and administration. Managed and directed both large and small staffs in traditional, matrix, and project-oriented management structures.

Amtrak - Director Design Support

Responsible to coordinate and review new capital construction project designs and act as Amtrak's engineering design representative for all large-scale projects in the NYPS area, including Moynihan Station and the Brookfield overbuild project. As a member of Amtrak's Fire and Life Safety staff, was also Project Manager for security-related projects such as Station Hardening and Movable Bridge Security, which were done on behalf of and in cooperation with Amtrak's Security Department.

Project Manager First Avenue Vent - New York, NY

Plan, direct, and manage the construction of the First Avenue Ventilation Project, a $172 million project to reconstruct the ventilation structures at First Avenue in Manhattan. The responsibilities of this Fire and Life Safety project included design direction and review, project control management, and construction management, and overall project direction.

Director NEC Business Operations - Philadelphia, PA
Director Budgets and Performance Measures
Technical Director Track Production

Manage and direct staff responsible for planning annual capital program for system production units, as well as preparation and daily oversight of capital and core budget performance for construction valued at $60-$80 million per year. Developed all annual and multi-year program schedules, estimates, and other financial and planning functions necessary to totally integrate a wide range of MW programs.

Program Director - High Speed Rail Planning and Program Integration

Directed activities of 14 professionals responsible for all design engineering, financial controls, scheduling, and interagency agreements required to complete the $1.5 billion Northeast Corridor High Speed Rail Program. Responsible for coordination with senior officials of Amtrak's many diverse departments to achieve goals of the program.

Special Assistant to the Vice President Engineering

Personal representative of the Vice President Engineering for state departments of transportation including California and New York, as well as prospective commuter clients Metrolink, Peninsula Commute, and North San Diego County. Responsible for coordinating all engineering disciplines, including design, construction, mechanical, and maintenance of way to ensure that critical multi-million dollar projects were successfully completed in a political atmosphere.

Director Engineering Special Projects

Responsible for providing engineering support services to our Northeast Corridor commuter clients, particularly New Jersey Transit and Septa. Coordinated all early planning and design efforts for these agencies' capital programs, including NJT's Secaucus Transfer and Eastbound Waterfront Connection projects and Septa's Overbrook and Frazer Maintenance Facility projects, as they related to Amtrak.

Project Manager Atlantic City and Westside Connection Projects

Planned, directed, and managed all operational and administrative aspects for over 200 force account employees from 3 disciplines involved in the construction of the Atlantic City Line Project - a four-year, $70 million project to completely reconstruct the 57-mile main line between Frankford Junction, PA, and Atlantic City, NJ, done in partnership with New Jersey Transit.

Technical representative between Amtrak and third party contractors involved in the construction of the Westside Connection Project in Manhattan, a three-year, $100 million project to convert an abandoned 10 mile long freight line into a 60 mph passenger line connecting upstate New York with Penn Station.

Division Engineer

Managed and directed a large management staff responsible for right-of-way maintenance, production, and capital construction for train operations at normal speeds up to 110 mph. This staff was responsible to manage up to 1300 employees. Responsible for coordination and teamwork of several diverse engineering disciplines with a total budget of $30 million per year.

Engineer Track Laying System (TLS) Planning

Directed and managed a staff of degreed engineers responsible for all planning and design aspects for Amtrak's Track Laying System. Developed all engineering, design, and survey work required ahead of all TLS construction, including publishing a Site Specific Work Plan (SSWP) for each railroad block in which the system worked.

R. Wahadi Bangura, PE
Field Coordinator (Stations)

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WHY SELECTED

- **26 years of professional experience**
- **Transit Experience**
- **Construction Experience in active Transit Station**

REGISTRATIONS/ MEMBERSHIPS

- Professional Engineer NJ
- American Institute of Steel Construction (AISC)
- National Society of Professional Engineers (NSPE)
- American Society of Civil Engineers (ASCE)

EDUCATION

BS, 1991, University of London, Civil Engineering

MBA Candidate, Ellis College New York Institute of Technology, Program Management Training

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Bangura has extensive experience in Heavy Construction and Engineering Management. Result driven Engineer with proven success in managing and supervising Heavy Construction projects. Vast experience in Deep Foundations' construction, Subsurface and Embankment slope stabilization; Retaining structures and Retention systems; Railroads, Roads, Bridges and Railroad Station. Seasoned ability to coordinate Cross-Functional teams of Owners, Designers and Contractors including Private and Public Agencies such as Amtrak and NJ Transit with successful results. Recruits, trains and supervises junior Engineers and Project Managers. Experienced in construction materials' lab analyses and Testing. Mr. Bangura's experience includes:

Urban Engineers, Metropark Station, NJ – Construction Manager managing the reconstruction of a $29.7M active train station platform project in one of the busiest train stations along the NEC in New Jersey. Review for approval, Cost Proposals of Change Orders and Monthly Pay Invoices from Contractors. Review invoices from Consultants for payment release. Review Contractors' claims and provide rebuttals and/or recommendations. Coordinate and conduct construction Progress Meetings and Workshops. Edit, compile and publish monthly reports for client.

Meadowlands Railroad and Roadway Improvement Project, New Jersey Sports and Exposition Authority (NJSEA), New Jersey Transit (NJT) and New Jersey Department of Transportation (NJDOT), Urban Engineers, Inc. – Resident Engineer for a $216 million multi-agency program of five (5) contracts to bring passenger rail service to the New Jersey Meadowlands Sports Complex in East Rutherford, NJ. The project includes a new 2.3 mile railroad alignment on grade and elevated structures through sensitive environmental areas, wetlands a new passenger rail station, roadway and tie in to an active New Jersey Transit commuter rail line improvements.

Don Todd Associates, Camden, NJ - As Project Manager, supervised junior Engineers and Project Managers on every aspect of managing the design and construction of multimillion dollar K-12 schools in Camden, New Jersey. Reviewed for approval, Cost Proposals of Change Orders and Monthly Pay Invoices. Reviewed Contractors' claims and provided rebuttals. Coordinated and conducted Design and Construction Progress Meetings and Workshops. Edited, compiled and published monthly reports for client.

DMJM + HARRIS, Secaucus, NJ - As Resident Engineer, completed a $32.5million NJ Transit Main-Bergen Connection project on time and within budget, coupled with zero claims. This contract was part of the multiple prime $610 million Secaucus Transfer Program. Supervised the construction of 5.5miles of Railroad Tracks including 15 Track Turnout Switches for a new connecting loop in the NJ Transit network. Supervised the construction of 5 bridges with 69 spans including 1 four-bay bridge rehabilitation that required synchronized jacking for bearings replacements. Directed the installation of 90' to 100' deep Caisson foundations adjacent to NJ Transit active train tracks with great success. Supervised Station Platform Rehabilitation adjacent to NEC Amtrak and NJ Transit active tracks. Reviewed for approval, Cost Proposals of Change Orders and Monthly Pay Invoices. Provided clarification and guidance to Contractors' Request for Information (RFIs). Coordinated and conducted Job Progress Meetings and Workshops. Recruited, trained and supervised Civil Engineers to meet and excel project's goals.

Architect DiGeronimo, Paramus, NJ - As Assistant Resident/Project Engineer, worked on various contracts such as: $30 million Access Roads, $10 million High Transmission Poles, $80 million Deep Foundations, $60 million Superstructure and $120 million Railroad Station Finishes Contracts. Assumed all Management Duties of Assistant Construction Manager during vacation breaks. Provided Structural Design Consultation for Architects on Building Structural elements. Reviewed Design Calculations and Shop Drawings of various Civil, Structural and Architectural elements. Coordinated work issues with Amtrak and NJ Transit Directors and Program Managers; Architects, Design Consultants, Fabricators, Manufacturers and Contractors. Reviewed for approval Site Specific Work Plans (SSWP) for installation of Foundation Piles, Caissons, Structural Steel and various Precast Concrete elements using Long Boom Cranes adjacent to NEC Amtrak active High Speed Trains and Power Lines. Responsible for all Cranes' capacity reviews and approvals for various loads picks on the project. Monitored and inspected subsurface soil (Peat) stabilization and construction of several Retaining structures and Tiebacks. Conducted Quality Control Plants' inspection on fabrication of Structural steel members, Prestressed/Precast concrete Structural and Architectural elements. Coordinated Quality Control inspections on the construction of numerous Bridges of diverse Structural elements and Roads through impassable terrains.

Froehling and Robertson, Sterling, VA - As engineering staff/lab supervisor, worked on several multimillion dollar projects in Virginia and Maryland. Responsible for projects' geotechnical lab Analyses and Evaluation of construction materials for Roads, Landfills, Foundations, Retaining structures, etc. Supervised and trained Field and Lab Engineers in Construction Inspection and Materials' Testing.

Professional Service Industries, Silver Spring, MD. - As member of the Engineering Quality Assurance Staff, worked on several multimillion dollar projects including Hwy I-95 and Federal Triangle in Washington, D.C. Provided geotechnical and general construction inspection services. Supervised junior Engineers and Inspectors on Road construction and Traffic Control Systems.

Heman contracts, London, UK - As Engineering Assistant/Site Supervisor, worked on several projects including Canadian Bank building, London, England. Provided on site Quality Control services and supervised Tradesmen of different Crafts and Trades.

William Kroth, PE
Field Coordinator (Structures)

URBAN ENGINEERS
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WHY SELECTED

- **33 years of professional experience**
- **Transit Experience Construction**
- **Experience in active transit environment**

REGISTRATIONS/ MEMBERSHIPS

- Professional Engineer NJ
- Professional Engineer NY
- Society of Asphalt Technicians

EDUCATION

MS, 1980, New Jersey Institute of Technology, Civil Engineering

BA, 1976, New Jersey Institute of Technology, Civil Engineering

2005, NACE Level 1- Corrosion Inspection Program

2005, Rutgers University, Traffic Control Coordinator

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Kroth has extensive experience in construction supervision and inspection of bridges, railroads, highways, tunnels, sewers, and other structures, as well as extensive experience in design, analysis, and report writing. He has also performed university level geotechnical engineering instruction at New Jersey Institute of Technology. Mr. Kroth's experience includes:

Meadowlands Railroad and Roadway Improvement Project, East Rutherford, NJ - Resident Engineer responsible for the construction for two viaducts, three bridges, 2.5 miles of rail, and a train station that will serve the Meadowlands Sports Facility. Complex issues including environmental regulations, contamination remediation, traffic flow/parking, and adjacent Xanadu construction required special considerations. Work included deep foundations, surcharge placement, directional drilling, precast and cast in place bridge elements, drainage, paving, electrical conduit banks, plaza construction and track and signal work. Construction cost $160 million.

HAKS Engineers, P.C., New York, New York

East Northfield Bridge over Canoe Creek, Livingston, NJ - Resident Engineer responsible for demolition and reconstruction of this Essex County Bridge. Work included community traffic coordination, structural review and field changes, environmental safeguarding, and general field inspection. Construction Cost $3 million.

Belt Parkway Bridge Over Ocean Parkway, Brooklyn, NY- Resident Engineer responsible for this award-winning NYCOT Design-Build Project. Elements of this project included replacement of the exiting Belt Parkway Bridge with a new "Inverset" composite girder bridge and installation of T walls, mini-piles, SuperPave pavement, and a completely new "modified diamond" ramp configuration to replace eight existing loop ramps. Also included necessary drainage, electrical, utility, and landscaping. Construction Cost: $60 million.

K.S. Engineers, P.C., Newark, New Jersey

NJ Transit, Secaucus Road Separation Project, NJ - Construction Engineer responsible for Quality Assurance of two steel-girder bridges and one concrete box-girder bridge over Route 1-9 and Conrail/NYW&S. Also included construction of four reinforced-earth ramps, soldier-pile/rock-socket walls, and CSO work. Work included construction of concrete bridge decks, latex overlays, new asphalt

pavement, and associated electrical and drainage work. Upon completion of the project, the entire section of Route 1-9 was widened, scarified, and repaved. Construction Cost: $38 million.

NJ Transit, Construction Management for Northeast Corridor Newark Liberty International Airport AirTrain Extension, Newark, NJ - Resident Engineer responsible for contract administration and direct inspection. Project involved construction of new train platforms connected by an enclosed pedestrian bridge to a new monorail station. Monorail station consisted of transformer rooms, wet and dry fire protection systems, HVAC systems, ITS systems, and elevators and escalators. Also conducted plumbing and electrical testing for DCA compliance involving the monorail station. Construction cost: $20 million.

Gandhi Engineering, Inc., New York, NY

NYCDOT, Seven Bridge Rehabilitation Studies, Boroughs of Manhattan and the Bronx, NY - Project Engineer for projects involving in-depth inspection; report preparation specifying substandard elements; preliminary design; and final design. Structures included the Broadway Lift Bridge, City Island Bridge, Riverside Drive Viaduct, and East 78th Street Pedestrian Bridge over the FDR Drive.

NYCDEP, Dunraven Causeway Bridge, Delaware County, NY - Project Engineer for the performance of stability analyses of abutments, foundations, and approaches for this structure located over the Delaware River.

NYCDOT and NYSDOT, Inspection of the Main Towers and Underdeck Steel Structures of the Williamsburg Bridge and the Riverside Drive Viaduct, Manhattan, NY - Team Leader for the inspections of the main approach towers and underdeck steel structures of the Williamsburg Bridge and the all structural elements of the Riverside Drive Viaduct.

NYCDOT and NYSDOT, Rehabilitation and Reconstruction of Three Highway Bridge Projects on Staten Island, NY - Resident Engineer for the rehabilitation and reconstruction of three highway bridges, along with various roadway improvements on the Staten Island Expressway. Work also included new asphalt pavement, drainage, and lighting.

MTA Tunnels and Bridges (TBTA), Rehabilitation of End Ramps and Approach Deck Slabs, Miscellaneous Structural Repairs, and Administration Building Rehabilitation at the Bronx-Whitestone Bridge, NY - Resident Engineer for work involving structural steel repairs, latex-concrete overlay installation, joint repairs, bearing replacement and alignment, and concrete repairs.

NYSDOT, Reconstruction of Cross-Bronx Expressway over Metro-North and Webster Avenue, Bronx, NY - Resident Engineer for the supervision of $17 million in construction, report preparation, design evaluation, corrosion surveys, and inspection. Construction included additional exterior fascia girders to widen roadway, microsilica concrete overlay, joint repairs, drainage structure installation, and pier reconstruction.

NYSDOT, Reconstruction of Webster Avenue Exit Ramp off Sheridan Expressway, Bronx, NY - Resident Engineer for the $5 million reconstruction of the entire structure. Duties included structural evaluation, corrosion surveys, and reconstruction inspection.

Sita Mohan, EIT
Field Coordinator (Stations/Signage)

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WHY SELECTED

- **15 years of professional experience**
- **Construction Experience in active Transit environment**
- **Transit Station Experience**

REGISTRATIONS/ MEMBERSHIPS

- 10 Hour OSHA Training
- Certification Army Corps of Engineers - Construction Quality
-

EDUCATION

MS, 1999, New Jersey Institute of Technology (NJIT), Environmental Engineering

MS, 1993, College of Engineering (University of Kerala - India), Housing

BS, 1991, Government College of Engineering (University of Calcuta), Civil Engineering

High School Diploma, 1995, Annamalai University (India),

RECORD OF PROFESSIONAL EXPERIENCE

Engineering-in-Training (E.I.T) Certification (State of NJ -2005) Experience in preparation of Change orders and estimation. Familiarity with RS Means Book and Primavera-Expedition Experience in Project Management and Administration in the Construction Industry Technical experience in preliminary design of water and wastewater treatment systems catering to different sources - industrial, commercial and residential, Obtained 10 hr OSHA Training Certification in Construction Quality Management conducted by Army Corps of Engineers, Strong Computer skills -MS Office, Expedition Primavera, Good communication & writing skills, Demonstrated ability to work well with others, both as a team member and as an individual.

Office Engineer, Urban Engineers of New York, P.C., NY
Currently working as an Office Engineer (Consultant) for NJ Transit on the following projects:

The Capacity Constraint Relief and Historic/ADA Improvements Project at Newark Broad St. Station, Newark, NJ.
Newark Drawbridge & Approach Spans Rehabilitation Project, Newark, NJ

Main responsibilities besides assisting the Construction Manager include:

- Documentation Control
- Preparation of Meeting Minutes
- Communicating with Consultants & the Contractor on

Submittal Management, RFIs & Mock-up related issues

- Maintenance of Submittal & RFI Logs
- Preparing and negotiating Change Orders
- Site work

Assistant Estimator, 06/2004 - 04/2006
TDX Construction Corp., NY
Worked as an Assistant Estimator on several mentor and emergency projects for the New York School Construction Authority (SCA).

The main responsibilities included assisting the Chief estimator in the following areas: -

· Processing & Preparation of Change Orders using Expedition Primavera

- Communicating with Contractors & Subcontractors on the various aspects of Change orders
- Negotiating Change Orders with Contractors
- Preparing all necessary documentation for Change orders & obtain SCA approval
- Performing all necessary tasks to complete Change Order processing
- Maintaining & preparing logs and reports on status of Change Orders
- Communicating with suppliers & vendors to obtain pricing on materials for estimating
- Estimating and conducting Quantity Take-offs on various construction projects mainly for Bidding purposes

Project Engineer, Volmar Services Inc., NY

Worked on a project for the New Jersey Transit for the improvement of Newark Pennsylvania Station
Successfully completed several Job Order Contracts for the New York City Transit Authority. The projects undertaken, mostly involved construction work for station renovation, installation of wastewater facilities, fencing Transit property, Punch List work etc.

The main responsibilities included assisting the Project Manager & Quality Control Manager in the following tasks: -

- Preparation of Change Orders and cost proposals
- Preparation of quantity take-offs
- Procurement of materials and man power
- Negotiation of subcontracts
- Supervision and assistance in the preparation of Submittals based on Contract Specifications and Drawings
- Preparation and maintenance of Submittal and RFI Logs
- Verification, review and submission of Submittals, Shop Drawings, As-built drawings etc
- Maintenance and documentation of Daily Construction Reports
- Review of subcontractor progress payment request
- Preparation of payment requisition
- Preparation of O & M Manuals

Technical Manager, Vasco Environmental India Ltd, Kerala, India

Experience was obtained, working on several projects in water treatment and wastewater treatment industry, and included

Planning and preparing preliminary designs for water treatment plants of capacities 3 and 4 Mgal/d for bidding purposes
Commissioning & operation of a domestic sewage treatment plant of capacity 100 m^3/day
Providing technical assistance for the construction of 1500 m^3/day wastewater treatment plant

Technical Consultant, Excel Technologies, Kerala, India

Involved in the preparation of cost proposals and the design, of water and wastewater treatment plants for industries, hospitals and hotels.

Joseph T. Mongillo,Sr.
Field Coordinator (Track/Strucutres)

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WHY SELECTED

- **44 years professional experience**
- **Career Rail Industry Professional**
- **Experience with Force Account**
- **Experience working in active rail territory**

REGISTRATIONS/ MEMBERSHIPS

- American Railway Engineering Maintenance Association (AREMA)
- New Jersey Society of Asphalt Technologists

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Mongillo has extensive experience in engineering/construction management. He has an extensive management background with Consolidated Rail Corporation and Norfolk Southern Railroads, where for many years he served as Project Engineer and Senior Construction Engineer. Mr. Mongillo was responsible for ensuring that all construction management activities (supervision of staff, budget, project scope, project design, safety, unusual occurrences, contract administration and costs) were managed and delivered within approved scope, budget, and scheduling guidelines. His interpersonal skills in managing "agreement" and "non-agreement" personnel have consistently enhanced achievements. Mr. Mongillo's experience includes:

Kansas City, Missouri - Norfolk Souther Railroad Company - Pavement Repairs in Existing Intermodal Facility - Construction Manager responsible for the Pavement Repairs to the existing terminal. The work consisted of removing and replacing 25,000 SY of 10" thick concrete, remove and replace 1800 LF of 10' wide 16" thick concrete crane pad 50,000 SY's of milling and paving of 2" asphalt. Value of the project this year is 3.5 million dollars. Responsibilities include coordination with railroad operations, terminal operations since the work is being done while keeping the yard open. Phase two will be next spring - value another 2 million dollars.

Harrisburg, PA - Norfolk Southern Railroad Company - Power Distribution in Enola Freight Yard - Provided Construction Management for Norfolk Southern on htis $1,000,000 project. The work included construction of two new substations, replacement of damaged poles and power lines and dismantling of the existing stations. Responsibilities included coordination with the Norfolk Southern railroad operations in the Enola Freight Yard, maintaining power for yard operations during construction.

South Philadelphia, PA - Norfolk Southern Railroad Company - Relocation of Existing Pump Station, Trackbed Construction - Provided Construction Management for Norfolk Southern on this $500,000 project. The work includes grading, drainage, and relocation of the existing pump station and trackbed construction. Responsibilities include coordination with CSX railroad operations in the Greenwich Yard, maintaining evaluations of the existing pump station during construction and the installation of the new pump facilities.

Lancaster, PA - Construction of New Running Track Norfolk Southern Railroad Company -- Construction Manager representing Norfolk Southern. The project included earthwork, drainage, and relocation of various utilities on this $6000,000.00 project including construction of the track bed along existing operating railroad tracks, coordination of utility relocation, removal of existing catenary poles and foundations along the active railroad, security lighting.

Jersey City Aqueduct Relocation and County Road Bridge, New Jersey Turnpike Authority - Construction Manager representing Norfolk Southern on this project. The project is in two phases. First the relocation of major utilities under the existing railroad (e.g. twin 72" water mains in 80" casings). After all the utilities have been relocated, then the second phase of the project will begin which is the construction of a new bridge over the railroad on County Line Road in Secaucus, NJ.

Norfolk Southern, Fuel/Service Facility, Elkhart, IN - Construction Manager for technical support for our field management team. The project consists of the design / build of two facilities in Elkhart IN. The first facility is for fueling and service for Norfolk Southern locomotives. The second facility is for rapid repairs to the locomotives. This work is being done while the existing locomotive fueling facility is in full operation.

Relocation of Conrail Perth Amboy Industrial Track, Perth Amboy, NJ - Construction Manager responsible for construction of 3600 ft. of relocated Conrail freight line including earthwork, drainage, track construction; construction of a 100 ft. span through girder railroad bridge; and construction of a precast concrete pedestrian underpass. Responsibilities on this $3 million project included construction inspection, coordination with utilities, coordination with contiguous municipal complex construction which necessitated the railroad relocation and development/implementation of streetscape improvement in the new bridge area. The project ran from late 2003 and finished early summer of 2005, to the satisfaction of our client the City of Perth Amboy and accepted without exception by Conrail Shared Assets the operating freight railroad.

Railbridge Terminals/Norfolk Southern Railroad Company, Elizabeth, NJ - Construction Manager for $1.5 million expansion of existing active intermodal terminal including construction of additional storage tracks, parking, drainage and security fence.

Northern Branch Double Tracking Project, Conrail, Jersey City and North Bergen, NJ - Construction Contractor's Project Manager, on-site, for the $10 million Conrail Northern Branch Project. Work involved 4.3 miles of track construction, bridge work, retaining walls, grading, drainage, and railroad interlocking in Jersey City and North Bergen, NJ. Project is being funded by NJ Transit to relocate freight operations to construct a new transit line on the former freight right-of-way. Responsibilities included planning, scheduling of all field construction forces, and coordination among subcontractors as well as coordination with freight railroad operations.

Norfolk Southern Railroad, Expansion of Consolidation Coal Terminal, Baltimore, MD - Responsible for Urban construction management of NS construction component of this $7.1 million coal terminal support yard. Project involved reconfiguring the existing active rail yard to add 60,000 feet of track including 48 new turnouts. Responsibilities included coordination of shipper contractor, NS site contractor, NS track forces, NS material deliveries, and railroad operations.

Franklin S. Teifeld

Field Coordinator (Track/Drainage)

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WHY SELECTED

- **31 years of professional experience**
- **Career Rail Industry Professional**
- **Experience with Force Account**
- **Experience working in active rail territory**

REGISTRATIONS/ MEMBERSHIPS

- American Railway Engineering and Maintenance Association (AREMA) Committee #14 - Yards and Terminals

EDUCATION

BS, 1977, New Jersey Institute of Technology, Civil Engineering

RECORD OF PROFESSIONAL EXPERIENCE

Mr. Teifeld has extensive railroad engineering, planning, and project management experience. During his distinguished career with Consolidated Rail Corporation (Conrail), he served in many positions, including Planning Engineer, Senior Transportation Analyst, and Office Engineer. Mr. Teifeld's duties involved developing proposal requests, plans, estimates, and specifications for rail freight and intermodal facilities, including major Conrail intermodal yards in the New York/New Jersey metropolitan area.

At Urban Engineers, Mr. Teifeld served as Project Manager for design of Norfolk Southern Railway Corporation's Croxton Intermodal Rail Support Yard, Intermodal Premium Gate Facility, and container loading pad and track located in Secaucus, NJ. In addition, he served as Project Manager for design of Norfolk Southern Railway Corporation's E-Rail Intermodal Rail Support Yard and satellite parking facility in Elizabeth, NJ. For CSX, Mr. Teifeld provided design and project management services for both the Greenwich Intermodal Facility in Philadelphia, PA and the Kearny Intermodal Facility in Kearny, NJ. Mr. Teifeld's experience includes:

Jersey City and Secaucus, NJ - Norfolk Southern Croxton Yard Intermodal Terminal - Remote parking facilities feasibility study. Project entailed design and evaluation of remote and site adjacent trailer parking facilities to support increase volume of intermodal movements through existing transfer facility.

Jersey City and Secaucus, NJ - Trans Hudson Express Tunnel Project Impacts Study - Evaluation of proposed track, right of way and operational changes on Norfolk Southern North Jersey Intermodal Terminal as proposed by New Jersey Transit in connection with construction and operation of a second passenger tunnel from the Northeast Corridor in New Jersey to New York City.

Los Angeles, CA, Hialeah (Miami), FL and Chicago, IL - Amtrak Progressive Maintenance Facilities. Urban Engineers, engaged as sub-contractor to major Architectural firm engaged in preparing B.O.D. plans and specifications, Mr. Teifeld was the key individual responsible for all railroad related site layout for three new passenger car repair shops planned by Amtrak in connection with implementation of new streamline maintenance procedures system wide. Available locations at existing Amtrak terminals presented numerous design difficulties as a result of the large dimensions of the proposed facilities.

Baltimore, MD, Harrisburg, PA and Cleveland, OH - Norfolk Southern Railway, Locomotive Inspection and Service Facilities. Performed site and utility layouts for locomotive truck inspection and service facilities in connection with ongoing NS system wide installation program of under track pits for performance of running repairs to road and yard locomotives at many mid size yards and terminals across the NS system.

Jersey City, NJ - Gateway Rail Transport LLC. Project Manager responsible for all aspects of design for a new Intermodal Transfer Facility located at Norfolk Southern's Croxton Intermodal Terminal. The facility is planned to receive Construction and demolition debris from the greater New York metropolitan area for transloading into rail cars prior to shipment to landfills in Ohio.

Philadelphia, PA- Philadelphia Regional Port Authority Pier 74 Sidetrack - Responsible for site & civil design of rail facilities to serve new bulk paper storage warehouse

Bellevue, OH, Atlanta, GA, Birmingham, AL, Enola, PA, Roanoke, VA, Kansas City, MO, Conway (Pittsburgh), PA - Responsible for all Civil/Site, Drainage and Track Design of new locomotive servicing and fueling facilities for Norfolk Southern Railway at these locations under an open ended G.E.C. (general engineering contract) with Norfolk Southern.

Chambersburg, PA -Responsible for all civil/site and track design for a new 115 Ac. Intermodal Terminal constructed by CSX Intermodal on a greenfield site in Franklin County Pennsylvania.

Tioga Marine Terminal Philadelphia, PA - Project Manager responsible for all aspects of design of new entrance gate facilities and perimeter security improvements at the Philadelphia Regional Port Authority's Tioga Marine Terminal. The improvements included new check in/check out lanes for trucks, a new gate house, establishment of new protocols for employee and visitor access, segregated employee parking, a CCTV System, perimeter fencing and vehicle access controls, installation of Radiation Portal Monitors for incoming cargo and incorporation of security measures to accommodate the Transport Worker Identification Credential (TWIC) system mandated by the Department of Homeland Security for all marine terminals in the US.

Design of Connecting Track for Norfolk Southern Intermodal Terminal, Philadelphia Navy Yard - Track and earthwork design for 1500' connecting track to permit access to newly constructed Intermodal Terminal at the site of the Former Philadelphia Navy Yard from CSXT/Conrail Shared Assets Harrisburg Line.

Inspection and Evaluation of the Salem Branch, Gloucester and Salem Counties, New Jersey - Project Manager responsible for track and undergrade structure inspection of approximately 18 miles of a former Conrail branch line purchased by the County of Salem, New Jersey in 1995. The purpose of the inspection of the line, operated at 5 MPH as "Excepted Track" under 49CFR213, was to develop a scope of work and rehabilitation cost estimate to bring the line into compliance with the requirements of Class II track to permit operation at 25 MPH.

Project Manager - Railroad Department. Duties include overall responsibility for design and construction management support of railroad facilities such as classification yards, intermodal terminals, industrial facilities and bulk transfer terminals. Design software experience includes Bentley Microstation, Bentley InRoads, Bentley InRail, Eagle Point civil engineering software, Haestead Methods StormCad and the AAR train operations simulator.

Joseph B. O'Haire, Sr.
Field Coordinator
(Track/Structures/Electric Traction/Drainage/Duct Banks)

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WHY SELECTED

- **34 years of professional experience**
- **Career Rail Industry Professional**
- **Experience with Force Account**
- **Experience working in active rail territory**

EDUCATION

Equivalent to Associate's Degree, The University of Pennsylvania, Various On-going Courses (1994 - Present, courses completed)

Certificate, 2006, Urban Engineers, Inc., Project Management Training

RECORD OF PROFESSIONAL EXPERIENCE

Mr. O'Haire has extensive experience in construction management and civil engineering for the railroad industry. He is knowledgeable in all phases of railroad operations with an emphasis on the safe attainment of construction goals and objectives. His experience includes oversight of environmental remediation and building and bridge demolition. Prior to joining Urban Engineers, Inc., Mr. O'Haire spent more than 20 years with Conrail in various positions ranging from drafter/surveyor to project engineer. Mr. O'Haire's experience includes:

Media Sharon Hill Line, SEPTA – Resident Engineer for Media/Sharon Hill Trolley Line Improvements (Stimulus Program), Southeastern Pennsylvania Transportation Authority (SEPTA) - SEPTA selected Urban Engineers to provide construction management services for Stimulus Projects on the Media/Sharon Hill Trolley Line totaling $12 M in construction cost. Projects involve continuous welded rail installation, brush cutting, catenary structure painting, and traction power sectionalization. As Resident Engineer, responsiblilities include oversight of construction, documentation of the project, and managameent of the field staff. (July 2009 - Present)

Metropark Station Platform Reconstruction, New Jersey Transit, Iselin, NJ - Chief Inspector for the $52,000,000 project that includes the demolition of existing passenger platforms along Amtrak's Northeast Corridor, installation of temporary and new platforms including the installation of a micro pile system and the improvement and enlargement of the passenger station. Duties include oversight of construction, management of an inspection team and work protection teams and handling of documentation and review of expenditures.

Timber Bridge Replacement, New Jersey Transit, Point Pleasant beach, NJ - Resident Engineer for the $3,000,000 project that includes the demolition of an existing two track timber bridge with a steel and concrete bridge. Mr. O'Haire's duties includes the oversight of construction, coordination with the contractor and the owner, contract administration and maintenance of records.

Locomotive Terminal Modernization, Norfolk Southern Railway Company, Elkhart, IN - Member of the project team that designed expanded locomotive servicing facilities which included two new buildings with fueling and lubricating systems. As part of the team, Mr. O'Haire's responsibilities included preparing, reviewing and compiling construction specifications and bid documents; and assisting in the management of the bidding process.

Morrisville Train Storage Yard, Phase II, New Jersey Transit, Morrisville, PA - Member of the project team for the design of track geometry and catenary work for a 9 track storage yard with

ladder and lead tracks. New Jersey Transit will take over "Clocker" service from Amtrak in 2006, and this yard expansion will support that service. Mr. O'Haire's responsibilities included the design and constructability review of the track and catenary system; design of the access roadway system; and the preparation, review and compilation of the construction specifications.

Locomotive and Rail Car Service Platform, Norfolk Southern Railway Company, Macon, GA - Member of the project team involved in designing new service access platforms. As part of the team, Mr. O'Haire's responsibilities included the preparation, review and compilation of construction specifications, initial survey and field review of as-built conditions.

Rail Traffic Study at Locust Street, CSX Railway, Philadelphia, PA - Project Manager for safety study of proposed grade crossings of CSX's mainline in Philadelphia. Mr. O'Haire prepared documentation including field surveys of existing conditions, and recorded rail and pedestrian traffic for CSX Railway.

Morrisville Train Storage Yard, New Jersey Transit, Morrisville, PA - Resident Engineer for yard improvements on this $65,000,000 project located within the former Conrail's East Classification Yard in Falls Township, PA. Work on the project involved: constructing 12 storage tracks with a ladder track at each end of the yard, multiple crossovers and turnouts, electric switch heaters, compressed air system, elevated inspection pit track, pantograph inspection platform, caissons and catenary structures, sectionalized catenary system, signal system and a yard lighting system; relocating three Conrail tracks; electrifying the yard's tracks and the lead tracks up to the interface points with Amtrak's electrification on the Northeast Corridor; constructing a new interlocking which will interface with Amtrak's Morris Interlocking on the Northeast Corridor; replacing the superstructure and minor substructure work of Bridge .40 over the Northeast Corridor and Bridge .50 over the Pennsylvania Canal; constructing a 7,000 sf support building for crews quarters and offices; and constructing a yard underdrain system, a paved access road, and maintenance paths. Mr. O'Haire's responsibilities included managing a team of construction inspectors and overseeing civil site improvements including water, sewer (sanitary and storm), gas, communications, electrical service, earthwork, road and track construction, overhead catenary installation and general construction. His administrative responsibilities included reviewing the billing monthly and reviewing cost estimates for proposed changes. (May 2001 - September 2004)

Frankford Transportation Center (FTC) Program, Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, PA - Construction Inspector for the Bridge Street Yard Modifications project in this program. This six-year, $190 million program was to replace the existing Bridge-Pratt Terminal with a modern intermodal transportation facility located at the northern terminus of the Market-Frankford Subway Elevated Line. The program included: FTC-2 (Bus Depot and Pratt Corner Building)- This $8 million, multi-prime project provided space for the construction of the new terminal building and guideway projects; FTC - 3 (Guideway and Systems)- This project involved constructing an elevated guideway from Dyre Street to the west side of the terminal building and from the east side of the terminal building to Bridge Street Yard; FTC - 4 (Terminal and Site work) - This multi-prime project involved the construction of the new Frankford Transportation Center Terminal Building, guideway for the Frankford Elevated Rail Line through the terminal platform, and bus facilities at grade level; and FTC- 6 (Bridge Street Yard Modifications) - This project involved obtaining and installing special trackwork including turnouts, track and contact rail and rail bonding for signals and traction power.

F. Technical Approach

F. TECHNICAL APPROACH

The Louis Berger Group/Urban Engineers Joint Venture (LBG/UE Joint Venture) has organized a team with an in-depth understanding of transit operations to assist PATH with the delivery of three simultaneous programs. The programs include the 2010-2014 Capital Program (Capacity Enhancements and ongoing State of Good Repair), the World Trade Center Construction and the Security Program.

Our JV team will be located predominantly on-site at the various PATH facilities, with some personnel available at our home offices to assist, as needed by PATH, for planning, coordinating, scheduling and monitoring the logistics and resources for these Programs, which must be coordinated with PATH's 24/7 passenger service. This assignment of consultant personnel is similar to other assignments performed by the JV team, such as the WTC site, where 100% of the personnel assigned to the project are located at 115 Broadway. Special studies have been conducted at the offices of The Louis Berger Group, Inc. (Berger), when needed.

Track and power outages are limited and must be coordinated on a daily basis to ensure that the work does not interfere with passenger service. Further, the equipment (flats and high rail vehicles) and facility personnel are also limited and must be efficiently allocated to ensure that the work gets accomplished on time.

At present, the tool used by PATH for assigning track rights, facility forces and equipment is a "track rights zone" wall map. We are proposing the development of a computer database map using Microsoft "Sharepoint" software. The digital tool will have a computer graphic map showing track, signals, power and staging areas. The tool will be set up to immediately identify conflicts and interferences. It will be able to optimize the work because it can also be linked to program construction schedules.

This technology allows the development of an interactive tool using "off the shelf" software. Resource planning can be performed in this software and linked to the construction schedules. This allows the team to immediately assess the schedule impacts of track rights assignments to each construction project. A similar tool was developed by Berger for the World Trade Center, where the Integrated Master Schedule is linked to the graphical image of the site. Multiple sets of data can be assigned to various sections of the site to review labor and equipment resources.

A. Ongoing Logistics Planning Services

Our JV will be led by experienced transit program managers. In concert with PATH personnel, they will conduct a daily analysis of the availability of resources and how those resources can most effectively be allocated. The analysis will include track rights, facility forces, equipment and yards.

The tool for this daily analysis of resources will be a "Sharepoint" tool that links the track rights zones, facility forces and equipment. This new tool will replace the present wall map used by PATH. A computer tool will expedite the planning process because it can spot interferences and conflicts more quickly than the current system and can suggest better work sequencing, even looking months into the future.

Our Planning Coordinators will provide expertise in construction operations unique to a transit system. For PATH, these operations include the signal system compatible with the new cars, CBTC system integration, ventilation, fire suppression, smoke purge, electrical redundancy, traction power and state of good repair, among others. They can evaluate the size of the work force needed for each work area, the time required for various construction jobs and–once the signal system has been interrupted–the time it takes to restore and test its functionality.

Our Planning Coordinators will include:

- Track Engineers
- Signals (CBTC) Specialists
- Electrical Engineers
- Ventilation Engineers
- Structural/Civil Engineers

Assisting the Planning Coordinators will be Field Coordinators. These professionals will be skilled in the actual field operations. They will be knowledgeable in the type of equipment used for the "in-tunnel" operations, such as "Pettibones", etc. They will understand track alignments, both horizontal and vertical. They will also be familiar with the power feeds for traction power systems and the location and alignment of the "third rail". They will also know the requirements for "interlocking" construction.

Our Field Coordinators will be construction professionals. They will include superintendents and foremen who have previously served on transit railroads and are knowledgeable with regard to the activities needed for rail construction. They will know the needs of each operation and the appropriate labor force, both contractor and facility, to assign. They will also be capable of analyzing the material and equipment transport needs; this will help PATH with the assignment of equipment, flats, etc.

B. Detailed Project and Master Program Scheduling

Using Primavera P6 software, our construction schedulers will coordinate the program scheduling effort. We will review the scheduling criteria in the construction specifications and, if necessary, modify them to require the contractors to provide resource loading into each task. The resources will include the elements in limited supply, such as PATH rail equipment, facility forces and staging yards. Each contractor will provide a complete breakdown of the tasks and assign resources to each task, including but not limited to cost, labor, contractor equipment, PATH facility equipment and facility forces.

The JV schedulers will review each construction schedule and assemble them into an Integrated Master Schedule. The Louis Berger Group, Inc. has been managing this function for the World Trade Center Reconstruction, where we presently have five scheduling engineers continuously evaluating the progress and impacts of the activities on one another.

As Capital Program construction progresses, the JV will conduct schedule workshops, review baseline schedules, analyze schedule updates, prepare status reports, and develop Time-Impact Analyses and recovery schedules. Working with CPM software is an artistic skill that requires an analytical mind and a logical understanding of construction means and methods. Construction operations are all about the metrics: how many workers are needed, what is their rate of production, what quantity of material can be placed in a day or an hour. It's the manner in which the activities are arranged that results in a successful schedule.

For instance, to properly sequence a construction activity, it's essential to know the details of the work. A concrete construction operation requires: (1) Formwork construction (carpenters), (2) Rebar installation (lathers), (3) Concrete Placement (laborers and finishers), and (4) Formwork Removal (carpenters). This information needs to be combined with transit operations, such as track rights and traction power shutdowns. Planning this sequence properly is critical to the economy of the work and how it impacts surrounding operations.

Our scheduling engineers think in this manner. We train them in the knowledge of construction activities, focusing on logically connecting activities to develop a good plan for building a project.

We will use the latest version of Primavera Schedule Software, P6.2, for our construction scheduling work. Most of our clients require this software, so we maintain several current software licenses for its usage. We also provide training to our staff with this product

As requested by the PANYNJ, schedulers will be assigned. Once assigned, schedulers will, in summary, be required to support the following services for the construction contracts:

- Review and make recommendations relating to each construction contractor's schedule – logic, durations, resources, cash flow requirements, etc. Ensure that the contractor's schedule adheres to both the construction contract documents and the appropriate Contract Specification sections.
- Create a baseline schedule based on the contractor's accepted schedule using the P6 scheduling software; generate baseline cost, schedule and resource reports.
- Perform cost, schedule and resource progress updates, analyze critical path(s), provide forecasts, highlight problem areas and suggest corrective actions, generate standard and custom reports as directed.
- Review proposed cost resource and schedule changes; revise schedule data based on approved changes and generate necessary reports.
- Participate in schedule-related meetings.
- Analyze the schedule impact of claims; make recommendations; and participate in Time Extension negotiations.
- Generate and maintain quarterly "Evaluation of Contractor's Scheduling Performance".
- Generate and provide status for Close-out networks.
- Assist in the preparation of Project Status Reports and perform any Cost/Schedule Control functions.
- Use programs compatible with existing Authority computer systems in the generation of all deliverables.

Integrated Master Schedule

For multi-contract projects, it is paramount to develop an Integrated Master Schedule (IMS) that permits an analysis of the interfaces and timelines of the adjacent and sometimes competing projects. Our approach to developing and monitoring an IMS of this magnitude is based on our experience in successfully performing similar tasks on numerous multi-contract infrastructure projects. This experience includes the Newark Airport Redevelopment and WTC Reconstruction for the PANYNJ. Those projects represent large, multi-contract infrastructure reconstruction projects with construction elements and coordination issues similar to this PATH Capital Program. Furthermore, on those assignments, our schedulers began developing the IMS during the design phase, when greater benefits could be realized.

The key to a useful IMS is its accuracy in reflecting the interrelationships and dependencies of the contracts. The restraints, constraints and milestones linking the various sections must be identified and the activities labeled and coded accordingly. For an assignment of this magnitude, the IMS will be a crucial tool for project-wide monitoring, contract coordination and funding projections.

As detailed construction schedules are received, approved and updated, the IMS will be updated to incorporate construction milestones and major elements of the contractors' preferential logic. The PATH Capital Program IMS will be updated monthly to reflect actual construction progress.

Baseline CPM Schedules

Our JV schedulers will assist contractors in developing baseline schedules for their individual contracts that realistically portray the projected contractors' work plans and the restraints of working in the PATH system with limited track rights, equipment and facility forces. These schedules will be incorporated into the IMS to ensure that it remains a reliable and valuable tool for planning and monitoring progress.

Upon receipt of the contractors' initial baseline schedules, our JV team will perform a detailed review based on a tested approach that has been proven on past assignments. Schedule logic will be evaluated to check that it corresponds with the staging plans (power shutdowns, signal restoration, etc.) and that the level of detail is adequate to plan, monitor and predict the work's progress. Quantities and resources will be evaluated for accuracy and compared to related activities within the schedule to check for consistency. Our review process is structured with the goal of obtaining an accurate and thorough schedule, approved in a timely manner.

Schedule Updates

Project schedules will be updated monthly during a joint field review with the contractor's schedule coordinator, PATH, and our JV team's scheduler. Our scheduler and the contractor will enter the information into scheduling software independently and compare the resulting data. This cross-checking method prevents unauthorized, inaccurate or accidental modifications that may occur during the update cycle. The schedule output will be evaluated at progress meetings where variations, deviations or modifications will be discussed. In addition, each topic of discussion on the progress meeting agenda will be reviewed for schedule implications.

As the job progresses, variations in the work plan may become necessary. If a schedule update indicates that a contractor has fallen behind schedule, a contractor-generated revision, or "recovery schedule", will be required to illustrate how the lost time will be recovered. We will analyze the contractor-generated revision and recommend to PATH whether a modification to the baseline schedule is appropriate. Requests and directions to modify the schedule will be reviewed and analyzed for the resulting implications prior to approval and implementation.

C. Related Support Services

Provide planning and coordination services to assist PATH and Project Management staff in determining the potential impacts to their work as they identify and incorporate the "logistics" involved in project delivery, as well as in advancing initiatives aimed at improving the overall delivery of the PATH Capital Program. Some of the potential services may include, but are not limited to: estimations of costs for PATH facility force support; management of specific studies required to support the PATH Capital Program, including planning studies aimed at establishing the scope of Program elements; preparation of detailed construction schedules; and provision of personnel to oversee field work when PATH personnel are not otherwise readily available and are required to provide timely delivery of Program elements.

Cost Estimates for PATH facility force support.

The ability to accurately estimate costs, including those associated with PATH facility forces, is an essential component of the success of PATH's Capital Program. An accurate estimate of facility force support will require a detailed approach that includes an understanding of the factors that will affect cost, including schedule coordination, interrelationships between projects, and availability of facility force support resources.

The process begins with assessing the facility force support needs required to implement Program projects performed by outside contractors, as well as the facility force required to perform ongoing repair, system maintenance and operations projects. The LBG/UE Joint Venture understands that the PATH Capital Program Logistics Plan implemented to date included the development of a Master Schedule, including facility force account resource loading. The initial Master Schedule served to identify coordination issues and resource conflicts. Although many conflicts were resolved, the LBG/UE Joint Venture understands that aggressive monitoring of the Master Schedule will be required throughout this assignment to provide that facility force account resources, and associated costs, are accurately estimated.

Our Team has performed pricing for complex transit projects in various stages of design, from conceptual to final, with construction costs in the billions of dollars. The LBG/UE Joint Venture will use the design documents, individual project construction schedules, and the Master Schedule to develop accurate estimates of facility force support costs. Our personnel will work closely with Authority/PATH personnel to prepare cost estimates that accurately incorporate labor productivities, current material prices, and construction equipment rates suited to the project specific site conditions and staging requirements. In addition, the LBG/UE Joint Venture can utilize its database of historical transit labor productivities and/or unit prices to develop an order of magnitude preliminary estimate, when limited scope of work or design information is available. We develop "real-world" cost estimates based on our understanding of the constraints and cost impacts of performing construction activities in active transit environments.

Other cost estimating services include:

- Preparation of complete, detailed cost estimates
- Preparation of conceptual, preliminary and pre-bid estimates
- Cash flow modeling and trending
- Preparation of project/program budgets
- Value engineering cost estimates
- Bid packaging and phasing
- Bid analysis, unbalanced bid checks and schedule of values development
- Progress payment assessments
- Change order estimates and checks
- Cost to complete estimates
- Check estimates
- Quantity take-offs

Our team's detailed approach to preparing cost estimates for PATH facility force support is outlined in Task C, "Evaluation of PATH Facility Force Requirements".

Management of specific studies required to support the PATH Capital Program, including planning studies aimed at establishing the scope of Program elements.

Throughout the life of this five-year assignment, PATH will look to the LBG/UE Joint Venture to manage and/or prepare various studies. The studies are an important component of the Capital Program Logistics Plan that will be used to establish scope, address major Program changes and investigate improvements to project delivery. It is anticipated that the studies may be used to:

- establish the scope of new Program elements;
- address scope changes to existing Program elements;
- respond to budgetary constraints;
- investigate advancements in technology; and
- address security needs.

The LBG/UE Joint Venture is prepared to manage and, if necessary, prepare the studies that will support PATH's goal of delivering the "right" Capital Program in an effective, timely manner.

Preparation of detailed construction schedules.

The LBG/UE Joint Venture offers PATH comprehensive scheduling resources, including a deep pool of available, experienced Schedulers and an extensive resume of transit projects that required our firms to develop and monitor design, construction and/or master schedules for transit agencies throughout the United States, including, but not limited to, PATH, Federal Transit Administration (FTA), Amtrak, New Jersey Transit, Port Authority Transit Corporation (PATCO), and Southeastern Pennsylvania Transportation Authority (SEPTA). Currently, Urban

Engineers is providing scheduling services to the Federal Transit Administration (FTA) for the Metropolitan Transportation Authority's (MTA) East Side Access and Second Avenue Subway Megaprojects.

The scope of services for this assignment includes development and monitoring of a Master Schedule comprised of design and construction schedules for outside contractors and internal PATH facility forces. The design and construction schedules will be developed by the project's respective design consultants and contractors. However, prior to receipt of those schedules, it is imperative that the Master Schedule include preliminary schedule information, including detailed preliminary construction schedules.

Detailed preliminary construction schedules for Program projects, as well as ongoing repairs and system maintenance projects, must be developed prior to construction. These schedules are based on preliminary design plans and incorporated into the Master Schedule. On a project of this size, the interface between construction contracts can lead to delays and disruption claims if one section falls behind schedule. By developing detailed preliminary construction schedules, interim milestone dates, start-no-earlier dates, and provisions to allow one contractor in an area first, work can be analyzed and evaluated to determine the most-effective sequencing of contracts. Further, this approach allows the contract provisions to address potential problems. As detailed construction schedules are received, approved and updated, the Master Schedule will be updated to incorporate construction milestones and major elements of the contractors' preferential logic.

Our Team's detailed approach to preparing detailed construction schedules is outlined in Task B, "Coordination and Evaluation of Schedules."

Provide personnel to oversee field work when PATH personnel are not otherwise readily available and are required to provide timely delivery of program elements.

The LBG/UE Joint Venture offers PATH extensive construction management resources that can be used to monitor construction activities on Program, ongoing repair and system maintenance projects. The LBG/UE Joint Venture combines the experience and resources of the country's leading construction management firms, as recognized by Engineering News-Record. If necessary, our team can provide, from our in-house construction management staff, highly competent and well-trained Field Project Managers, Resident Engineers, Construction Engineers, Inspectors and Technicians. Our staff, selected specifically for each project, will be based on qualifications and experience working on Authority projects and/or projects with similar construction activities and challenges. This proposal includes the resumes of construction management personnel available to support delivery of PATH's Capital Program.

Our construction management services are tailored to the specific needs of PATH, with a focus on enhancing control of construction time, cost and quality. Our team's goal is to allow the work to be accomplished in conformance with acceptable construction industry standards, the requirements of the contract documents, and PATH's specific needs. Construction management personnel will work closely with PATH from the outset of the project to establish construction budgets, set realistic timetables, and make critical decisions governing cost and quality within the time permitted by the schedule. In managing construction projects within the Program, our team will establish a positive system of communication and coordination between PATH, the contractor, the designer and other project stakeholders.

Consultant Tasks

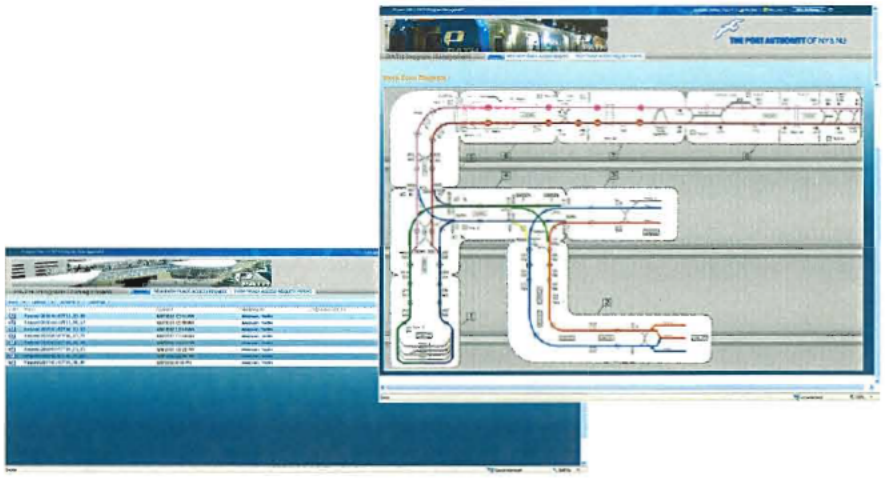
The following demonstrates our approach to each Task identified in the RFP:

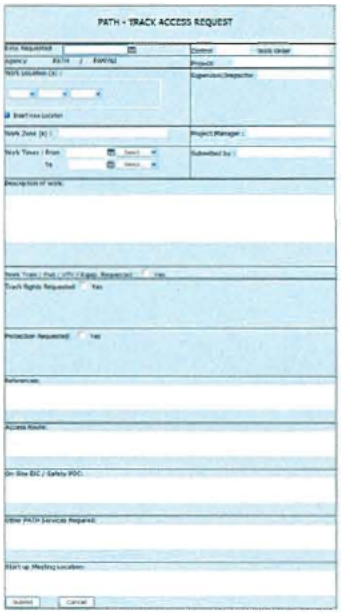
Task A: Coordination of Path Track Access Requests

The governing factor for on-time and on-budget completion of the Capital Program is how much track access the contractors can get, and how often they can get it. With PATH being a 24/7 operation, there are limited time slots for the performance of construction work on the tracks. Consequently, there will be a high demand for access rights. The most robust year of the Capital Plan will be 2011, when PATH anticipates spending $1.2B, double the work performed in 2008.

In order to double the amount of work being performed within the limited PATH spaces, PATH wants to develop and implement a system of prioritizing track access assignments. Our JV has begun the development of a digital PATH system map, which can be linked to a database containing resource information such as track access rights, signal data, equipment and facility forces. This tool is being developed in Microsoft Sharepoint, an off-the-shelf application used for linking various programs. This technology provides a tool for identifying conflicts between competing contractors and PATH maintenance requirements. Once identified, the activities can be evaluated using the CPM schedules against both the individual and master schedules. The activity with the most potential impact to the schedule can be given priority.

In this Figure, we are providing a screen shot of our proposed PATH track map. This map is in preliminary development, and it is our plan to link the map to the Integrated Master Schedule. This tool will allow the Logistic Planning team to investigate the schedule impacts of track access assignments.





Our JV has assigned a team to develop this tool. Once the tool is in use, the development team will monitor its performance and implement modifications for improvement, if necessary. This team will also train PATH personnel in the operation and maintenance of the digital map. The team is led by Paul DeMeo, PE of The Louis Berger Group, Inc. He was the lead consultant employee on Restoration of PATH Service to the World Trade Center, Phase I, and brings a fundamental understanding of PATH work rules, along with an in-depth knowledge of Project Controls, including scheduling, document control and communication-based software.

The Senior Planning Manager, Victor Simuoli, PE of Urban Engineers, will coordinate the use of the "map" with the actual work. He will review the "map" along with the PANYNJ staff to determine if it is set up properly and contains all the resources, work zones and staging areas. He will work with the PATH staff on a daily basis to plan the work using the "map".

Task B: Coordination and Evaluation of Schedules

As Program Management consultants, both Berger and Urban maintain, on staff, several skilled CPM Schedule Engineers. These engineers will be assigned to the Logistics Planning Group as needed to review Detailed Construction Schedules and the Integrated Master Schedule. They will work with the Planning Coordinators and the Field Coordinators to review the contractor CPM schedules.

A key function of the Schedulers will be to insert the contractor CPM schedules into the Integrated Master Schedule (IMS). The schedules are coordinated using a Work Breakdown Structure (WBS) that is consistent across all of the construction contracts. All construction contracts must have CPM schedules using the standard WBS.

Our IMS will be the main schedule for the Capital Program, using a similar approach to the WTC, where the Louis Berger Group Scheduling Team reviews all the contractor schedules and incorporates them into the IMS. The IMS will initially have schedules developed by the designers for each of the PATH construction projects. As the contracts are let, the designer-prepared schedules will be replaced by CPMs prepared by the construction contractors. This process will be continuously updated and monitored by the Senior Planning Manager to ensure that the Program is on time and on budget.

The IMS will be linked to the computer track map prepared by Paul DeMeo's team of Sharepoint experts.

Task C: Evaluation of PATH Facility Force Requirements

The LBG/UE Joint Venture understands that planning and monitoring PATH Facility Force resources is an important aspect of PATH's Capital Program. The facility force support of varying degrees will be required to support each planned project, including: World Trade Center Transportation Hub and Permanent PATH Terminal; security program implementation; new car and signal programs; station modifications; state of good repair; and rehabilitation and extension of platforms to accommodate 10-car trains. The LBG/UE Joint Venture will assist PATH in developing and monitoring a plan to deliver timely and cost-effective facility forces that support the needs of the Program.

Our team has experience with and an understanding of facility force needs, based on an extensive resume of successfully completed design and construction phase transit assignments. This experience allows the LBG/UE Joint Venture to quickly understand the facility force needs, prepare accurate cost estimates and develop detailed schedules. Our facility force plan will accomplish the following goals:

Identify facility force resource needs;
Quantify budget demands;
Support the timely completion of capital improvements;
Minimize and/or eliminate contractor impacts; and
Identify and coordinate potential conflicts between Program projects, ongoing repairs, system maintenance and operations.

Primary facility force support tasks include:

1. Analyze PATH staffing requirements based on proposed schedules of activity (see Task B) to generate timely identification of required staffing modifications.

During the initial stages of this assignment, and as part of the overall planning process, our team will meet with divisions of PATH to identify facility force resources anticipated to support the ambitious capital improvements program. Our team recognizes that PATH has successfully begun the process of identifying facility force support needs, as evidenced by the development of a resource-loaded Master Schedule. Our team's objective is to update and improve upon the current planning tools in an effort to provide PATH with timely, accurate information that can be used to identify needs, whether protection or physical work, while integrating the multiple projects within each of the eight (8) work zones.

Our Team's approach to preparing detailed planning and construction schedules is outlined in Task B, "Coordination and Evaluation of Schedules".

2. Estimate the staffing and cost for PATH facility force support provided for projects undertaken by outside contractors.

Facility Force requirements for projects undertaken by outside contractors must be determined well in advance of the actual start of the construction project. Outside contractors rely on facility forces to:
Provide access to the work site;
Provide roadway worker protection, including track access and power outages, to support construction; and
Support third party contracts performing physical work as detailed in documents.

Our team will work closely with various divisions within PATH, and their design and construction management consultants, during each phase of project delivery to anticipate facility force needs during construction.

PATH's Capital Program Logistics Plan document recognizes that Value Engineering and constructability reviews are critical functions that will benefit the Program and, specifically, the identification of facility force needs. Our team is prepared to implement a constructability review process that will include a detailed review of the facility force requirements for projects undertaken by outside contractors. Our constructability reviews are performed by a team of individuals with extensive transit field experience, as well as a clear understanding of the project's design, the constraints of the project site, and the concerns of PATH. We will proactively investigate opportunities to piggyback facility force support, minimizing the facility force budget.

Once field facility force needs are identified, they will be incorporated into our Master Schedule. Having detailed, accurate facility force activities in the Master Schedule will allow identification of resource demands and of issues, such as manpower needs and track access conflicts that could lead to contractor delay claims. In addition, the LBG/UE Joint Venture will review contract specifications for appropriate language to protect PATH regarding facility force activities, their durations and coordination requirements. Furthermore, the LBG/UE Joint Venture will work with PATH's construction management consultants in checking to ensure that contractors incorporate facility force activities into their baseline schedules.

3. Estimate the staffing, timing and cost for construction activities performed by PATH facility forces (e.g., the replacement of turnouts, rail, etc.).

Equally important as the support to outside contractors, are the facility force needs for construction projects performed by PATH facility forces, such as ongoing repairs, system maintenance and operations projects. These tasks are no less important than those of the Capital Program and, therefore, must be planned and monitored using the same level of detail.

At the start of this assignment, the LBG/UE Joint Venture will meet with various divisions of PATH to review facility force resources and planning information prepared to date, including schedules, cost estimates and project prioritization. Using this information as a baseline, the LBG/UE Joint Venture will continuously revise/update the schedules and cost estimates in an effort to reflect current conditions and respond to the dynamic nature of the Capital Program. Updated facility force cost and schedule information will be presented monthly to PATH.

4. Monitor PATH staffing support and staffing levels to determine modifications that may be required to support the timely completion of the Capital Program.

Our team understands that the planning process does not end with the development of an initial schedule and/or estimate. For example, facility force activities may be accurately included in the contractor's baseline schedule, but during the course of the project, schedule slippages and/or logic revisions often change the anticipated start, or even scope, of the facility force activities. It is imperative that changes at the project level be transferred to the Master Schedule and the facility force schedule and associated resources be reanalyzed to check that the required resources are available to support a changed scope/schedule. The LBG/UE Joint Venture will work closely with PATH's project-specific design and construction management consultants to develop a process for timely exchange of information that could impact planned facility force support.

5. Assist PATH's Management and Budget and Human Resources Departments in assessing staffing changes needed and facilitate their efforts in procuring required employees to support delivery of the Capital Program.

One of the benefits of developing and monitoring a detailed facility force plan is the early identification of budget and/or resource needs before they adversely impact the Capital Program. Our team will utilize detailed project control tools, including: project design and construction schedules; Master Schedule; and cost reports to identify and assess facility force staffing needs.

For a Capital Program of this magnitude, staffing needs may vary dramatically and, at times, unexpectedly, due to unforeseen issues that have the potential to threaten time and cost estimates. Staffing needs may require a reallocation or adjustment of current PATH facility forces to address a temporary or short-term need or, at other times, PATH may need to procure additional forces to support an accelerated schedule or critical recovery effort. Impacts to ongoing work within one work zone affect the ability to progress projects within other work zones. Our goal is to use our project control system to identify and address these needs in a timely manner. In accomplishing this goal, our team will work closely with PATH's Management and Budget and Human Resources Departments in addressing staffing needs. If there is a need to procure additional employees, our team will assist PATH with the procurement process, including identifying experience requirements and preparing procurement schedules.

Task D: Logistical Support

The LBG/UE Joint Venture brings to PATH experienced transit and rail managers with many years of experience, both individually and collectively, providing the necessary logistical support to implement the work.

From our projects for PATH, New Jersey Transit, New York City Transit and SEPTA, we have gained a wealth of experience in planning and executing a work flow that entailed complex track outages. We bring familiarity in preparing the work location before the actual track outage starts and for critical testing and reenergizing of the third rail after work is completed, placing the track back in service and authorizing train movement.

Currently, with MBTA, we have a multi-million dollar contract for emergency bridge repair and rehabilitation. The challenges for MBTA are the same as what we anticipate for PATH, although the actual track structure designs will differ: to identify where and how bridge members or prefabricated sections can be placed to cause the least

possible neighborhood disruption during a weekend track closure. Three-day weekends with a holiday on either Friday or Monday are selected to minimize the number of weekends requiring bussing between stations. At MBTA, a weekend day of track closure costs $50,000 in logistical support, including force account overtime pay, flags and bussing. More important than cost is the service disruption to passengers, so Operations gives authorization for the outage only when no other way is possible to execute the necessary repairs. In many cases, single tracking between interlocking could be used, though we support the assessment of whether slow orders and ongoing flagmen can be used if, and only if, turnouts allow trains to cross over without backing up (right- to left-hand move with or without a crossing frog at the interlocking). Another factor, of course, is whether the planned work location is equipped with bi-directional signaling to enable single-track operation.

Some jobs can be accomplished with minimal disruption at night, like CWR installation with or without thermite welds at the end of each flash-butt welded string, while out-of-face renewal on ballasted track will require a full service outage within limits that are set to accomplish realistically the work production capacity estimated for that night or weekend.

Given the increasing value of track time when capacities are constrained, as they are across most of PATH's mainline network, we will use our experience in transit capital and MoW to do as much work as possible within a work zone that can be safely renewed without delaying a planned service-start up for the morning peak usage period.

Understanding work rules at PATH is as important as staging materials and machines on-site before the work starts. Without the necessary gangs set to deploy, the work cannot be executed properly. We have experience in staging the work so that one union's limit can be another's scheduled work time in order to lay the basis for continuous productivity in the field.

Our team will ensure that enough lead time is provided for the ordering of components needed for the work, so that they will be on-site in a timely fashion, and before installation begins. In many cases, finding pocket tracks, sidings and yard leads where work trains can be loaded and staged like surplus or scrap rail and OTM in advance is a key part of preparing the work site.

The Employee-in-Charge (EIC) is a vital role whose responsibility it is to integrate all field forces, with briefings in advance of the job and coordination amongst and between the gangs and trades monitored closely and adjustments made accordingly. The EIC shall assume the credo that what can go wrong will go wrong, and backup options will be invoked, like the engine on a work train failing or a broken tamping fork needing to be fixed quickly on the tamper. The EIC we appoint will be indistinguishable from a PATH employee over time and, while adjustments will be made, the nature of the work is the same: get the workers to work efficiently together, bring enough work equipment to the site, have all materials staged and prep the work site properly in advance. Certifications are critical for all workers in the field, together with the proper training and knowledge of applicable track, signal and communications standards to apply on-site.

PATH was originally designed and constructed to Pennsylvania Railroad (PRR) standards. During the course of the Capital Program, we can draft new state-of-the-art, AREMA- or APTYA-based standards while upholding the old standards where appropriate.

Our team has significant experience in applying state-of-the-art track maintenance methods in the field and has worked with the National Research Council and TTCI in turnout life optimization, wheel-rail grinding profiles (both corrective and programmed), and track degradation modeling and planning. We have ample experience in track geometry measurement and track surfacing standards development and training. We will apply our strengths in the industry with PATH's planning studies and needs, in order to keep what works going, along with slow process improvements which will be monitored and applied in close concert with PATH managers.

The LBG/UE Joint Venture is aware of the need to present Capital Work Program priorities and projects on an ongoing basis, and has the tools and knowledge to get both senior and middle management on the same page. Typically, for example, presentations and objective SOGR information, when coupled with a clear understanding of the staging and phasing of multiple projects, will help to bring every department together on the same page and achieve buy-in on an ongoing basis for plans and priorities. We understand that we will be responsible to clearly and accurately present "what if" scenarios to facilitate the group decision-making process inherent in this four-year, multibillion-dollar Capital Program. As such, we stand ready, willing and well-qualified to act as seamless extensions of the PATH staff.

G. Management Approach

G. Management Approach

The Management Approach to this assignment is key to the success of not only the consultant's activities, but also to the success of the PATH Capital Program as a whole. Optimal use of limited force account resources and minimum disruption of PATH service are the keys to successfully implementing the Capital Program.while maintaining ongoing operations of the PATH system. Several projects in the Capital Program, including the PATH re-signaling project that will utilize communications-based train control (CBTC) technology and the construction of the Hub at the World Trade Center site, will require a significant amount of track outages and force account personnel. The staff that we have proposed understand the needs of PATH, and working around active tracks where safety and timeliness of the construction are key to successful project implementation.

The Project Manager is the key to setting up the communication network for this program and assisting PATH in allocating limited resources to optimize performance on concurrent projects in the Capital Program while minimizing disruptions to the PATH service. His understanding of the program's operations and construction aspects, and his ability to guide the team to obtain and disseminate the required information, is essential.

The key point of contact will be the Project Manager. For this effort, the Senior Planning Manager will serve as the Project Manager and will be responsible for coordinating the efforts of the schedulers and estimators, as well as other members of the consultant team. He will serve as the focal point for interaction with PATH Management and will be responsible for allocating project team resources as needed. His staff will be working on the force account projects that are performed internally, but will also maintain the schedules for the work being performed by outside contractors. The Field Coordinators will report directly to the Project Manager, unless there is a need to have one of the coordinators be named a Senior Coordinator and be assigned the oversight of all field coordinators. The senior Field Coordinator will be in attendance at the weekly coordination meetings.

The Plan Coordinators will also report to the Project Manager, again unless the volume of work warrants the establishment of a Senior Planner whose responsibility would be to coordinate all of the activities for assisting with the plan and specification preparation. We believe that the Project Manager will be able to handle this coordination initially. The following approach will be followed to organize and control the project:

First 90 days – The Authority's Capital Program will be reviewed and analyzed by the LBG/UE Joint Venture. The project team will review the existing schedules of projects in the Capital Program and will produce an Integrated Master Schedule linking the various projects. This schedule will provide the basis for the staffing of the projects, and will be used as a tool to provide PATH with an anticipated cash flow over the course of the projects in construction. The LBG/UE Joint Venture will meet with the appropriate PATH personnel and gain input for the schedule. Our schedulers will produce a resource loaded schedule that will indicate the manpower required for the force account staffing, and the requirements for the field coordinators.

Meetings will also be held with Operations personnel to gain an understanding of the operating procedures and needs of the groups. The data collected from these meetings will be utilized in the formation of the Master Schedule. It will also be important to gain an understanding of the current resources of the Operating Departments and their ability to meet the force account support requirements. As the resources and the schedule of projects are melded together, and the need for field support in the form of Employee-in-Charge services, or other requirements, is determined, the LBG/UE Joint Venture will provide the required services.

After a draft Integrated Master Schedule is produced, a meeting will be held with PATH Management to review the schedule and the staffing requirements, and to determine if changes need to be made to the schedule due to requirements of which we were unaware at the time of the initial schedule preparation. Following the meeting, the schedule will be modified. Also, at this time, the estimators will provide the final cost information to be included into the schedule so that cash flow requirements can be graphically produced for use by the Authority.

In addition, the team will also meet with PATH personnel during this period to begin the planning and preparation for the future contracts that will be let by PATH, and to determine the needs thereof. Personnel will be assigned immediately to the most critical projects, so that they can begin to perform the duties required to move the projects forward. A determination will be made as to the required expertise of the personnel, and the personnel will be assigned immediately thereafter.

Moving forward, the Project Manager will now be able to begin the process of establishing regular meetings to keep the schedule updated, determine the current needs for the Force Account from the Operating Departments, review the upcoming projects and work to be performed, and review any changes to the current schedule and determine how this will affect the overall Master Schedule and the resources.

The Project Manager will set up weekly meetings with the Operating Departments and Management staff to review the Force Account needs for the following week, to make go/no-go decisions on projects so that the Force Account personnel can be scheduled, and to review the overall needs for the Force Account personnel.

In addition, the efforts made on the planning and expediting of future projects will be discussed, including the challenges being faced by the personnel responsible to expedite these projects. Minutes will be taken of these meetings, with action items assigned to provide a clear understanding of the party responsible for those actions. The minutes of each meeting will be prepared within three (3) business days of the meeting.

The monthly track access requests will be reviewed at the meeting to determine the necessity and reasonableness of the requests. These will be kept in spreadsheet form, where it will be easy to identify visually where and when the outages will occur. This will be updated on a weekly basis at the coordination meeting.

In addition to this meeting, the team will have an executive meeting with the management staff of PATH to discuss the overall program and the support being supplied by the LBG/UE Joint Venture. At these meetings, the Project Manager will provide an update of the current status of the services and the projects, and also will review PATH's upcoming needs. Comments will be recorded, and an action list will be produced and updated as a part of these meetings.

The intent of our management structure is to provide timely support to PATH on all of the services requested, and provide the expertise that will provide these services in a cost-effective manner.

H. Subconsultants

H. Subconsultants

The LBG/UE Joint Venture has collaborated with established firms on a subcontracted basis to provide the Authority with the best Planning and Project Management team possible for this opportunity. Enhancing the LBG/UE Joint Venture as its subconsultants include:

- Envision Consultants, LTD. (WBE)
- Garg Consulting Services (MBE)
- Stellar Services (MBE)
- HNTB

This section includes information on our subconsultants' MBE/WBE certifications and technical qualifications of their key personnel. Multiplier support information for each subconsultant is included in Section C of this proposal. All terms and conditions of their compensation will be determined and finalized should the LBG/UE Joint Venture be awarded this contract.

HNTB

HNTB Corporation
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www.hntb.com

HNTB

The LBG/UE Joint Venture will be joined by HNTB for Signals and Communication support. HNTB is a national transportation infrastructure firm that offers extensive design, engineering and planning services to federal, state and local public and private clients. HNTB's more than 3,700 talented and dedicated professionals in more than 63 offices nationwide deliver transportation capabilities that provide local solutions. As trusted advisers and renowned experts, HNTB brings technical expertise to virtually every aspect of the planning, design and construction management process.

Beginning as a railroad bridge design firm and developing into a multidisciplinary corporation, HNTB has built a strong legacy of delivering total transportation solutions for communities and regions. To that end, the HNTB staff possess a wide range of signal and train control capabilities gained through practical application of all types of signal systems for both private and public clients. The HNTB personnel have extensive experience with automatic block signal systems, centralized traffic control systems, interlockings, simulation (operations simulation and design), "On Track", supervisory control systems, microprocessor-based systems and construction phase services/inspection.

As mentioned earlier, HNTB is currently completing work for a Task Order GEC contract with Amtrak, for which they have provided signal, electric traction/OCS, track design and engineering services for several projects in ACSES territory. Some of the signal projects under this GEC have contained multiple tasks such as the development of new aspect control lines and the design of new track, traffic, routing and other signal circuits.

HNTB opened its first New York office in 1922. Since then, we have grown and diversified to meet the demand for a wide array of transportation solutions. For the past 60 years, **HNTB Engineering & Architecture, P.C. (HNTB)** has provided public and private agencies throughout New York comprehensive engineering, architectural and planning services in a wide range of disciplines, including: transportation, bridge, aviation, architecture, urban design and planning, environmental engineering, and construction services. Currently, more than 110 HNTB multi-disciplinary professionals and support staff are located within the New York Metropolitan Area. HNTB is completely familiar with local conditions and maintains a principal office in New York City. The successful completion of over 280 projects in New York demonstrates the firm's commitment to providing its clients innovative and cost-effective solutions, within the bounds of quality, customer satisfaction and communication. Professionals in the New York offices have provided their expertise on several local projects including:

- PANYNJ On-Call for Lifecycle Management Services 2009-2013
- PANYNJ, Transportation/Traffic On-Call
- DRPA Transportation On-Call
- SIEDC West Shore Light Rail Phase II Plan
- MTA - LIRR Replacement of Atlantic Ave Viaduct - Phase II
- MTA – NYCT Flood Mitigation Measures
- MTA - LIRR Babylon to Patchogue Interlocking Signal Design
- MTA - LIRR Track General Engineering Consultant
- NJT - Stations, Access & Parking Planning TOC
- PANYNJ - Planning On-Call
- PANYNJ - Capital Security On-Call A/E Services
- MTA Capital Security Improvements

STANLEY WIECEK
Field Coordinator

With nearly 45 years of experience in planning, railroad operations, maintenance, and major construction projects, Stan has developed expertise in many areas. During his 36 years with the Port Authority of New York and New Jersey and PATH Corporation, he assumed increasing responsibilities for capital program development, facility planning, operations and maintenance, along with budget preparation, and project management. Stan has provided design support for major rehabilitation projects involving station expansion, right-of-way improvements, security upgrades, train operations and fare collection systems. At Amtrak, Stan managed the design development and award, of Life Safety contracts, including Tunnel Emergency Ventilation, tunnel lighting upgrades and rail improvement programs in and around Penn Station New York. His project experience includes:

New Jersey Transit, Preliminary Engineering Services, Northern Branch Rail Corridor Project, Newark, NJ - Deputy project manager for an A/E joint venture performing the preliminary design for new passenger rail service on the Northern Branch Rail Corridor, from North Bergen to Tenafly, NJ. Stan's position involves the design and development of track plans and new passenger stations for a 12-mile right of way. The current phase involves initial surveys, geotechnical investigations and environmental analyses. (2008)

Sandia National Laboratories, Radiation Portal Monitors at New York Container Terminal, Staten Island, NY - Project manager for design and construction phase services for a DHS-funded project for radiation monitoring of out-bound truck containers leaving NYCT at Howland Hook, Staten Island. Stan developed the infrastructure required to support experimental detection devices. He was responsible for obtaining TAA approval from PANYNJ, along with coordination of work between disciplines, client and construction manager. (2007)

New York Economic Development Corporation, Reactivation of the Staten Island Railroad, New York, NY - Project manager for activities relating to on-going construction, design, and post-construction reviews. The reactivation of the Staten Island Railroad restores the infrastructure to provide rail freight access between New Jersey and Staten Island. This rehabilitation will support local businesses with low-cost rail transportation and is expected to decrease truck traffic on Staten Island by 100,000 trips per year. By 2010, the total economic impact to New York City's economy will be more than $200 million, and 330 jobs will be added to Staten Island. Work involved significant coordination with Port Authority departments relating to the concurrent rehabilitation of the railroad lift bridge crossing the Kill Van Kull. Scope included installation of a new freight yard, new track and replacement of railroad bridges, along with auxiliary systems to support rail operations. (2007)

STANLEY WIECEK

Firm
HNTB Corporation

Education
BS, 1961, Mechanical Engineering, City College of New York
Professional Program in Urban Transportation, Carnegie Mellon Institute

Professional Affiliations
Past President, Metropolitan Railway Club of New York
National Fire Prevention Association

Port Authority of New York and New Jersey/PATH Corporation, NY - Program manager from 1991-1996 who directed staff in the development of multi-million dollar contracts for new construction and infrastructure rehabilitation at the Port Authority's Hudson River crossings and the PATH transit system. Stanley also obtained Board authorization, and managed the design development and award of seven major contracts, with a project value of $57 million, for infrastructure renewal at the PATH transit system, George Washington Bridge, Goethals Bridge, and Outerbridge Crossing. One was a $22 million contract for structural repairs to the Holland Tunnel ventilation buildings; another was an $18 million contract for the construction of a new consolidated maintenance shop. (1991-1996)

Port Authority of New York and New Jersey/PATH Corporation, NY - Assistant general superintendent of capital programs from 1985-1990. Responsible for coordination between PATH's operating divisions and the planning division with respect to the development of PATH's $750 million capital program. This included a new tunnel emergency ventilation system, substation expansion, new supervisory control system, new car maintenance facility, rehabilitation of existing fleet, and purchase of 94 new cars. Established, and managed, a new four-person unit responsible for developing project needs, coordinating plan and spec reviews and monitoring daily construction activities to ensure minimal disruption of PATH train service. He also developed and instituted formal contract review procedures, and project log system. Avoided using scarce real estate by conceiving a scheme to construct a new substation over PATH tunnel. (1985-1990)

Port Authority of New York and New Jersey/PATH Corporation, NY - Superintendent, Way, Power and Structures Division who completed an $8 million PATH track rehabilitation project utilizing in-house forces. This involved the replacement of track switches, ties, and the installation of welded rail. (1981-1983)

SIMON REICH, PE
Field Coordinator

Simon has 50 years of project management, engineering, and construction management experience in the fields of transportation, operations, simulation, and railway signaling. As a rail manager in HNTB's New York Office, Simon has managed large railroad and transit projects for the Long Island Rail Road, the New York City Transit Authority, the Port Authority of Allegheny County and other clients. His responsibilities have included feasibility studies, preliminary design, final design and specification preparation, shop-drawing review, factory testing, field testing, construction management, and commissioning of railroad signal systems. Simon's project experience includes:

Long Island Rail Road, West Side Storage Yard Improvements, New York, NY - Project manager and design engineer for the LIRR West Side Storage Yard project. Led the effort during which detail design was performed and specifications and construction-cost estimates were prepared for a two-phase replacement of the existing West Side Storage Yard signal system. During the first phase, the construction and testing of which has been completed, two new computer-based plasma display work stations were installed which provide point-and-click unit-lever operation of the yard. This phase also included replacing the then-existing Westinghouse Brake & Signal S2 and Dupline SCADA systems to remote locations with a single PLC-based system. The WSSY office PLC also provides the non-vital logic for unit-lever control and for controlling the indications displayed by PC-driven line-of-light-type plasma-displays. The second phase of this project for which design is complete, provides for replacing the existing all-relay control system with a Vital Programmable Logic Controller-based system. The new system was to incorporate a wall-type model board consisting of a matrix of nine 60-inch plasma display units, two work stations each utilizing two 42-inch plasma display units for point-and-click entrance-exit and unit-lever controls as well as control and display of train IDs, and a yardmaster work station which will also have two 42-inch plasma displays without control capabilities. Later, at the railroad's request, this design was revised to substitute workstations at a remote control office for the wall-type model board. (2001-2009)

Long Island Rail Road, Consultant Design and Engineering Services Contract, Category 5, Signaling and Communications, New York, NY - Project manager for the Long Island Rail Road Consultant Design and Engineering Services Contract, Category 5, Signaling and Communications. Individual projects included a Penn-42 Alternatives Investigation study; the relocation of the operations control center at Jamaica; the development of a fiber-optic backbone communications system; the preparation of a technical scope of services to perform design engineering for a reconfigured Queens Interlocking, developing a new terminal at Hempstead, and reverse signaling for the Hempstead Branch; the preparation of a technical scope of services to provide a central control facility at Jamaica including the modifications required for each interlocking and for the communications system

SIMON REICH, PE

Firm
HNTB Corporation

Education
BS, 1959, Physics, The Polytechnic Institute of Brooklyn

Professional Registrations
Professional Engineer:
NY/1972, #[redacted]
NJ/1975, #[redacted]
KY/1983, #[redacted]
CA/1978, #[redacted]
DC/1974, #[redacted]
MA/1973, #[redacted]
(inactive)

Professional Affiliations
Institute of Electrical and Electronic Engineers
Member, American Railway Engineering and Maintenance-of-Way Association
American Public Transit Association, Institution of Railway Signal Engineers
New York Railroad Club
Metropolitan Railway Club of New York

to support central control; preparation of plans and specifications to improve the condition of the track on the Main Line east of Riverhead to support higher speeds and smoother operation; preparation of a grounding design standard for signal, communications, and electric-traction equipment which will minimize damage and disruption to service caused by the effects of lightning and inductive surges; provide signal-system design and support services for modifying the track layout in Penn Station to extend the U Ladder into the leads to West Side Storage Yard; and perform a study which will determine the suitability of the corporate communications network to furnish the communications path for the signal code system. (2001)

Long Island Rail Road, Great Neck Interlocking Improvements, Nassau County, NY - As project manager and design engineer for this project, Simon led the design effort and performed detail design for the Great Neck Interlocking Project. This project had signal, track, and civil-engineering components. The signal work was comprised of three separate interlockings and included the detail design of the railroad's first microprocessor based interlocking. The design of these three interlockings provided for remote control from an office originally located at Harold tower which was later moved to a central control office at Jamaica Station. This project included establishing the railroad's criteria for future applications of microprocessor signal technology including remote control using a PLC-based redundant system on the railroad's enterprise network. The track work included reconfiguring an end-of-two-main-track interlocking with a single-switch tail track into an extension of the main track, the addition of two crossovers, and the addition of a single turnout to provide a means for turning 12-car trains with the flexibility of providing this move in three different ways. The civil-engineering component included providing retaining walls to permit additional track construction and providing drainage facilities required to permit the installation of the track and signal bungalows. Also associated with this project is the detailed circuit checking of LIRR-designed circuits for the automatic signaling between Great Neck and Port Washington. This project included design and construction-phase services. (1997-2000)

CHESTER A. KASPSZAK
Field Coordinator

Chet is a senior resident engineer with 27 years of transit operations and track engineering experience working for the Long Island Railroad. His experience encompasses every level of track work, from supervising field installations to managing multi-million dollar projects to leading a 500 employee department through strategic long-term and operational short-term planning and management.

His strengths include railroad track engineering and operations expertise; construction project management skills; ability to solve complex problems in a high pressure fast pace environment; organization and team building ability; communication and interpersonal skills; budget and financial planning; and prioritization of work scope to maximize results. Chet's experience with the Long Island Railroad includes:

Principal engineer of track who led a 500-person track department that maintains and rehabilitates 500 miles of main line track and has an annual budget of $65 million. In this role, Chet held full decision-making responsibility for day-to-day operations, development of long-range plans, evaluation and training of human resources and the implementation of new technologies.

- Created and implemented strategic five- and 20-year plans to drive future maintenance of the track infrastructure resulting in a within cycle track structure.
- Prepared and successfully managed an annual track department budget of more than $65 million.
- Delivered the $35 million capital Annual State of Good Repair Programs within budget and scope. Track Department awarded MTA All Agency "Excellence in Construction Performance Award" for State of Good Repair 2007 Track Rehabilitation Program.
- Implemented improved rail flaw detection system and rail profile grinding resulting in a 23-percent reduction in broken rails and 53-percent reduction in train delays.
- Initiated the first mechanized tie installation of polystyrene / polyethylene composite ties.
- Established frog welding repair shop providing $180,000 in cost savings per year.

Engineer of track construction who led 100 employees towards the implementation of major capital track improvements that included CWR

CHESTER KASPSZAK

Firm
HNTB Corporation

Education
MBA, 2003, Hofstra University
Concentrations in Finance and Real Estate
BS, 1982, Civil Engineering Technology, Fairleigh Dickinson University - Magna Cum Laude Graduate
Ultrasonic Rail Testing Level - 40 hour class Sperry Rail
Service

Professional Registrations
EIT

Professional Affiliations
American Railway Engineering and Maintenance of Way Association
American Society of Civil Engineers

installation, mechanized tie job, switch and crossing installations. Responsible for meeting budget, productivity, quality and safety goals.

Manager maintenance of way administration who was selected by Assistant Chief Engineer to lead newly created division. In this role, Chet developed and implemented Access database program to daily work, as well as developed and implemented Excel program to analyze, organize and assign employee positions. He also performed statistical analysis of work performance, safety and budgets

CHESTER KASPSZAK

THOMAS E. BESSOIR, PE
Plan Coordinator

Since joining HNTB in 1985, Tom has been engaged in the development of signal, interlocking, train control designs, specifications, and contract drawings for projects for the Long Island Rail Road (LIRR), Southeastern Pennsylvania Transportation Authority (SEPTA), Chicago Transit Authority (CTA), New York City Transit (NYCT) and Amtrak. In addition, Tom has developed various signal and train control programs. These programs are used to evaluate system performance, determine capacity, and verify block lengths. Such computer-based traffic-simulation studies have been performed by Tom for the LIRR, Amtrak and Houston MTA. Tom's project experience includes:

Rail, Signal and Train Control

Long Island Rail Road, Babylon to Patchogue Signal Design, New York, NY - Senior engineer and project manager for the LIRR Babylon to Patchogue Signal Design project. This project replaced the existing, life-expired signal system with a modern bi-directional cab signal system using automatic speed control without wayside signals. Also included was the installation of a new universal microprocessor-based interlocking at Great River and the conversion of the existing all-relay interlocking at Sayville to a microprocessor-based interlocking. Tom led the signal engineering design and checking efforts for this project. Tom also developed the block layouts and the routing plans, designed the crossing approach control design, designed the vital and non-vital relay equivalent circuits for the microprocessor-based interlockings, and checked the hardware and layout plans. In addition he performed the conversion of the relay-equivalent drawings into Boolean equations in an application source file for use with Microlok II processor. (2007-2009)

Long Island Rail Road, West Side Storage Yard Signal Improvements, New York, NY - Senior engineer and project manager for the LIRR West Side Storage Yard Signal Improvements project. This project resulted from the plan to build a deck over the West Side Storage Yard and develop the real estate that would result. The plans for this development required relocating the existing WSSY control tower to a new location. To meet the requirements HNTB has revised the design they performed under Contract 5614 to provide for work stations remote from the building in which the relay room is located. The revised design included to-be-wired-from design drawings as well as specifications and other documents to permit procurement and installation of the wired processor and relay racks to permit a staged implementation of the final signal system. Tom led the signal engineering design and checking efforts for this project and developed a staging plan for the new signal system. Tom also designed the vital and non-vital relay equivalent circuits for the multiple microprocessors used to control the signal system and checked the hardware and layout plans. In addition he performed the conversion of the relay-equivalent drawings into Boolean

THOMAS E. BESSOIR

Firm
HNTB Corporation

Education
ME, 1990, Engineering, The Cooper Union for the Advancement of Science and Art
BE, 1979, Engineering, The Cooper Union for the Advancement of Science and Art

Professional Registrations
Professional Engineer:
NY/2004/#[redacted]

Professional Affiliations
American Railway Engineering and Maintenance of Way Association
New York Academy of Sciences

equations in an application source file for use with Microlok II processor. (2007-2009)

Long Island Rail Road, Wantagh and Amityville Interlocking Improvements, New York, NY - Senior engineer and project manager for the LIRR Wantagh and Amityville Interlocking Improvement project. This project replaced the all-relay interlockings with a two processor control scheme. Tom led the signal engineering design and checking efforts for this project. Tom also developed the routing plans based on the existing circuits, designed the vital and non-vital relay equivalent circuits, and checked the hardware and layout plans. In addition he performed the conversion of the relay-equivalent drawings into Boolean equations in an application source file for use with Microlok II processor. (2004-2007)

Long Island Rail Road, Vital Processor Based Signal System for New Jamaica Interlockings, New York, NY - Senior engineer and project manager for the LIRR New Jamaica Interlockings project. As a subconsultant to Union Switch & Signal, Inc. HNTB had a major roll in this project to replace the three electro-pneumatic Model 14 interlockings in this complex terminal area with vital processor interlockings. Tom led the signal engineering design and checking efforts for this project. HNTB's tasks for this project included the preparation and checking of single- and double-line track plans, primary and alternate route tables, signal aspect and routing tables, coded cab signal control line diagrams, and vital and non-vital processor interlocking logic. In addition HNTB assisted US&S in other key areas such as system architecture and hardware interconnection design. (2003-2006)

Long Island Rail Road, Hollis and Queens Interlockings' Track and Signal Routing Design, New York, NY - Senior engineer for the LIRR Hollis and Queens Interlockings' Track and Signal Routing Design. HNTB designed track and signal routing plans as a subconsultant to Alstom. Tom performed braking calculations and prepared block layouts and routing diagrams. (2002-2005)

M. MAHMUDUL BARI
Plan Coordinator

Mahmudul is a senior communications engineer with 13 years of experience in multidiscipline projects and all aspects of communications and ITS system design. His experience includes project management, design management, ITS system design, high-speed fiber optic system design, and construction services. Mahmudul's project experience includes:

Peninsula Corridor Joint Powers Board (Caltrain), Advanced Traveler Information System (ATIS), San Carlos, CA - Task manager and lead design engineer for the Advanced Traveler Information System (ATIS) project. Mahmudul is responsible for managing, coordinating, developing and delivering quality submittals. The ATIS project will design and implement station and office-end equipment for both the Caltrain public address (PA) system and the visual message sign (VMS) system as an integrated system. The ATIS project consists of computers, network components, software, office-end PA systems, station visual signs and communications equipment to comply with the Americans with Disabilities Act (ADA) for both audio and visual messages to passengers at station platforms. This system will provide an intelligent, synchronized messaging system for passenger information. The messages will include train schedule, emergency, service, boarding, safety and other types of information. Mahmudul provided a 100% level detail system design for the control center and stations equipment. (2008 – Present)

Peninsula Corridor Joint Powers Board (Caltrain), PA and VMS System Design and Integration Study, San Carlos, CA - Lead engineer for the PA/VMS System Design and Integration Study responsible for managing, coordinating, developing and delivering quality submittals. Mahmudul performs a high level field study to assess Caltrain's current PA and VMS infrastructure and available communication system. After the assessment is performed of the existing field conditions, an analysis is performed to determine the best way to integrate the PA and VMS system. The final product of this study is to include recommendations and a plan to upgrade/modify the existing system and functional specifications for the new PA/VMS equipment. (2006 – 2007)

Port Authority of New York and New Jersey (PANYNJ), 800MHz Back-up Radio System Design, Jersey City, NJ - Lead engineer for the Back-up Radio System Design project to support the radio site infrastructure development and coordination between other disciplines. Mahmudul performed a site visit and field study to assess the PANYNJ's current radio site infrastructure and available communication system. After

M. MAHMUDUL BARI, EIT

Firm
HNTB Corporation

Education
BS, 1995, Electrical Engineering, Georgia Institute of Technology

Professional Registrations
N/A

Professional Affiliations
Institute of Electrical and Electronic Engineers

conducting a field test in one location and assessing the existing field conditions, a new back-up radio system was designed to support the existing system. Mahmudul also performed systems engineering and communications assignments. The project scope is confidential per client request - please contact client for further details. (2007 – 2008)

Peninsula Corridor Joint Powers Board (Caltrain), Signals, Communications and CTC Study, San Carlos, CA - Lead communications engineer for this high-level communication backbone network study to determine the signal system, train control system and communication system to best serve Caltrain's long-term goals. The study reviewed Caltrain's current wayside signal system, centralized traffic control system, centralized DigiCon dispatching system, and backbone and station communications system linking the field and office systems. (2005 – 2006)

Connecticut Department of Transportation, Rehabilitation of Walk Swing Bridge, Hartford, CT - Lead communications engineer for the rehabilitation of the Walk Swing Bridge. The communications system includes a new cabling plan that will be used by an existing fiber optic transmission system (SONET). A Metro-North dedicated optical fiber transmission system and local copper cable distribution reach all locations along the right-of-way. Communications systems to be designed and installed as part of the bridge rehabilitation include an intercom/public address (PA) system for the bridge, a CCTV system for bridge operation, local telephone, local security (intrusion) systems, a radio system and SCADA systems. Drawings to be developed include system block diagrams, riser diagrams, cable/conduit routing plans, equipment layout plans, installation details, and interface drawings where the communications system infrastructure interfaces with Metro-North's existing infrastructure. (Present)

PETER LLOYD, CEng
Plan Coordinator

Peter possesses a wide variety of electric traction power planning, design and project start-up experience. He has been involved with ongoing projects and general engineering contracts for the Massachusetts Bay Transportation Agency (MBTA), National Railroad Passenger Corporation (Amtrak), New Jersey Transit Corporation (NJ Transit) and Rhode Island Department of Transportation (RIDOT). These projects have involved third rail power system modifications, design of traction power, wayside lighting, track switch heating supplies, traction power loadflow studies and power system investigations. Under previous employment by Balfour Beatty Rail Projects Ltd., Peter was responsible for the testing and commissioning of the entire Amtrak Northend project traction power system, encompassing more than 300 track miles of overhead contact system (OCS), four supply substations, and 21 autotransformer and switching stations. In addition, he has assisted in light- and heavy-rail power system simulation studies as part of substation, power distribution and OCS planning and design projects, both as design-build as well as conventional procurement. Peter's project experience includes:

National Rail Road Passenger Corporation (Amtrak), Sub 34A Hamilton Substation, NJ - Project manager for the preliminary design of a new 138 kV substation providing 12 kV, 25 Hz, single phase traction power to the Amtrak Northeast corridor. The feasibility aspects include substation location, system modifications, 138kV transmission line interface and co-ordination, environmental and permitting analysis, and overhead contact system (OCS) sectioning modifications for the new four transformer substation with all required circuit breakers and sectionalizing, plus control equipment complete with interface to Amtrak's supervisory control and data acquisition (SCADA) system. Additional the substation shall become and 6.9kV 100Hz signal system sectionalizing point with all corresponding equipment. (2009 – Present)

SEPTA, General Engineering Task Order Contract, Philadelphia, PA - Peter is serving as the Traction Power lead engineer and task manager for all traction power and electrical related task orders under the Contract. Tasks to date have included tunnel lighting upgrades and Sharon-Media Hill Line Re-sectionalizing. (2008-Present)

Caltrain/Joint Power Board (JPB), Electrification, Statewide, CA - Traction power system design manager responsible for directing, reviewing and providing input and analysis on all traction power issues to the program manager in relation to the proposed 2x25kV ac electrified system.

PETER LLOYD, CENG

Firm
HNTB Corporation

Education
BEng, 1992, Electronic and Electrical Engineering, University of Salford, UK

Professional Registrations
Chartered Engineer: UK, 2001

Professional Affiliations
Institute of Electrical Engineers (IEE)

Institute of the Electronic & Electrical Engineers (IEEE)

Peter provides expertise gained from the extensive design and commissioning roles for the Amtrak Northend Electrification project. (2007 - Present)

National Rail Road Passenger Corporation (Amtrak), Signal Power Substation Sub #20 Baltimore, Baltimore, MD - Project manager responsible for the design of adding an 100Hz signal power substation on Amtrak existing system. The signal power substation comprises 12kV, 25Hz step down transformer and associated disconnect switches with interlocking, 25Hz to 100Hz frequency converter, protection relays, 6.9kV line distribution circuit breakers and disconnects, PTs and CTS, SCADA and control modifications. (2008 – Present)

Massachusetts Bay Transportation Authority (MBTA), General Engineering Services Contract (GEC), Boston, MA

PETER LLOYD

Peter has provided traction electrical engineering services for traction power specification reviews and updates. He is responsible for reviewing and analyzing operational problems with existing traction power equipment shop drawing reviews and substation operation event analyses for the MBTA on their 600V dc traction power system. In addition, Peter has performed stray current analysis associated with the 13.8kV cable distribution system, technical specification updates, substation auxiliary system repair design, and provides engineering assistance when needed. (10/2002 – Present)

New Jersey Transit Corporation (NJ Transit), Penn Station JO Interlocking Improvements, New York, NY - Traction electrical design engineer for 600 Vdc third rail power system modifications necessary to facilitate relocation and multi-staged replacement of almost all switches in the eastern throat of lower New York Penn Station (Lines 1 and 2). (2002 – Present)

Stellar Services

STELLAR

Stellar Services is a Port Authority of New York and New Jeersey certified S/MBE Information Technology consulting firm with extensive experience in the transit industry. Our track record proves that we have the ability to finish every project to the satisfaction after clients. We are proud to claim more than 16 years of experience providing a comprehensive range of innovative and effective IT consulting, procurement and professional services for government agencies at the federal, state and local levels. Since our beginning, we have achieved success on all of our projects to date and distinguished ourselves in project management, software development, engineering and construction planning and management, document management system consulting and systems integration, hardware/software procurement, asset management, logistical support, and quality control process. Stellar has been growing steadily and currently possess an annual revenue of $12.8 million and has one-hundred highly educated and experienced IT professionals, whose broad range of specialties make developing elegant and effective solutions for our clients possible.

Stellar Services is a Capability Maturity Model® Integration certified firm. We have formed several strategic partnerships with industry leaders such as Open Text Corporation and Primavera Technology Premier Partnership and the Microsoft Gold Partnership. Working together with our clients as project partners, we offer them unsurpassed services and go beyond their requirements by delivering solutions of the highest caliber.

We bring an arsenal of sophisticated technology to the field and work one-on-one with our clients to make sure that our solutions fit their unique needs and that our clients can fully manage our implementations after we leave. Our goal is to balance the cutting-edge with the practical, while always delivering value. We have provided premiere consulting and advisory services to transportation and aviation clients such as the Port Authority of New York and New Jersey, New York City Metropolitan Transportation Authority, New Jersey Transit, Metropolitan Washington Airports Authority, Department of Aviation City of Atlanta, to name a few.

Our company's core is its team of highly educated and experienced IT professionals, whose broad range of specialties make developing elegant and effective solutions for our varied client base possible. Over 85% of our employees possess advanced Master or Post-Baccalaureate degrees as well as solid experience in IT consulting. Our dedicated competent team of professionals is comprised of project managers, system and network engineers, programmers, content management specialists, business process analysts and subject matter specialists fully equipped with superior technical and interpersonal skills.

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Fax# 212 432 2846

ARTHUR HUANG

Web Master / Sharepoint Specialist

Mr. Arthur Huang has extensive experience in strategic planning, technology implementation, and process development, as well as in new product design and development. He is very experienced in the use of SharePoint, having led the design and development of an enterprise SharePoint solution for Stellar Services' work with the Jewish Association for Services for the Aged. In addition to his completion of several large-scale enterprise electronic document management system implementations, he has a strong background in managing market analysis, product analysis, and solution design and project implementation.

EDUCATION

Zicklin School of Business, Baruch College, CUNY, NY, 2005
Master of Business Administration, Finance & International Business
Stern School of Business, New York University, NY, 1994
Bachelor of Science, Accounting & Management Information Systems

PROFESSIONAL WORKING EXPERIENCE

Stellar Services, New York, NY 06/2007 – Present
Director of Business Solution

- **New York City Economic Development Corporation (NYCEDC), New York, NY** *(PM)*
  - Managed and architect a comprehensive "Project Collaboration System" solution *(SharePoint 2007)* to improve cross-departmental communication and meet statutory compliance requirements.
  - Led, planed, and directed business modeling, process improvement, Gap analysis project deliverables.
  - Participated enterprise-wide business strategic planning and perform technology recommendation selection process.
- **Jewish Association for Services for the Aged (JASA), New York, NY** *(PM)*
  - Led the design and the development of an enterprise portal solution based on the Microsoft SharePoint 2007 platform and a customized consolidated database (25 disparate data sources) for Jewish Association for Services for the Aged (JASA).
- **Stellar Services SharePoint Portal** *(Web Master)*
  - Planned, designed and developed Stellar Services own internal SharePoint document management portal.
  - Designed the complete document adjudication process from inception to completion and subsequent repository within internal ECMS, including automated generation of Project, Progress, and Status reports.
  - Designed and maintained complete check-in, check-out single-sign within system.
- **NYC Administration of Children Services (ACS)** *(PM)*
  - Planned and designed Livelink physical records management and document management solution which includes ECMS and Records Management Solution and Document scanning and Barcode scanning integration.
  - Analyzed and evaluated records management process and requirements.
  - Performed process reengineering and, policies and procedures redesign.

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- **THE TUNNEL (New Jersey Transit), Newark, NJ** *(PM)*
  - Designed and developed Livelink workflow solution.
  - Designed and developed workflow training courses and materials
  - Conducted Livelink training sessions *(General users to Content Manager)*
  - Participated in Livelink system and document management solution design
- **Major Pharmaceutical company, New Brunswick, NJ** *(PM)*
  - Designed and implemented an enterprise content management solution (OpenText Livelink) which services over 1500 users world-wide with 24X7 hosting services.
  - Designed document management portal for each phase of the implementation process including updates, submittals, analysis, and resolutions, daily reports, daily mitigation/ regulatory status reports.
  - Designed the migrated 600GB of project data and 5-10 live workflow processes.
  - Integrated a custom built printing service module that extracts documents from Livelink 9.7.1 and delivers document packages via SFTP service.
  - Developed and maintained developer correspondence, requests for information, submittal log, change notice/change order log, potential claim.
- **US Army Picatinny Arsenal, NJ** *(PM)*
  - Designed and developed an enterprise Executive Dashboard solution for large PM office which manages over 200 products, including Excel spreadsheets business intelligence reports to include Cost Estimates. Designed enterprise-wide database schema and extensive data integration processes. Designed and developed web-based Project Reports.
- **Office of Federal Detention Trustees (OFDT), Washington, DC** *(PM)*
  - Designed and managed a web-based nation-wide county and facility database application for county officials, USMS, and other federal officers.
- **New York State Department of Transportation, Albany, NY**
  - Participated in the technical development effort for DOT Primavera P6 implementation project.
- **Lower Manhattan Commend Center Control (LMCCC), NY** *(PM)*
  - Designed a customized module to integrate the LMCCC Schedule-Simulation Management Tool (GIS and Paramics) for the impacts analysis of contraction on traffic during the decision-making process.
- **Queens Borough President's office, NY** *(PM)*
  - Managed and designed a web outreach/community application to service the entire borough of Queens.

BLUE HORIZON New York, NY 06/02-06/03

Business Development Director/Project Manager

- Led a start-up medical training and recruiting company placing medical talent from China in US institutions to address shortage of trained medical personnel. Developed end-to-end business strategy and actively monitored operating plan as the project evolved. Conducted market assessment and competitive analysis in order to design a viable channel strategy, product positioning strategy, pricing strategy and sales & marketing plan that secured $500,000 in private funding.

ARTHUR ANDERSEN, LLP New York, NY 06/97-01/02

Experienced Manager – Technical Architect

- Managed strategic analysis of client operations focused on business re-engineering and technology projects, with responsibility for $500,000-$1.5 million budgets.

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HAO JIANG

Cost Engineer

Mr. Hao Jiang specializes in financial and cost accounting, operational auditing and project management. He has strong analytical research and investigative skills, and has in depth knowledge in GAAP, FASB and SOX. He is extremely well organized and detail oriented, with strong time management and prioritizing skills, and confident in decision making while exercising discretion, reliability and prudent judgment, and highly merited on maintaining high unit standards and complying with guidelines, policies and procedures.

EDUCATION

McGill University, Montreal, QC, Canada 2006-2007
Diploma in Accounting/Graduate Certificate in Treasure and Finance

McGill University, Montreal, QC, Canada 2004-2005
Master of Library and Information Study

Memorial University of Newfoundland, St. John's, NL, Canada 2003-2004
Master of Business Administration

Memorial University of Newfoundland, St. John's, NL, Canada 2001-2002
Master of Arts in Economics

Nankai University, Tianjin P.R. China 1991-1995
Bachelor of Arts in Economics/Bachelor of Arts in Literature

TECHNICAL SKILLS

- QuickBooks, Simply Accounting, Payroll and Tax Software
- Primaver6
- MS Office (Word, Excel, Outlook, Visio and PowerPoint)

PROFESSIONAL DESIGNATIONS

- Certified Public Accountant (CPA)
- Certified Management Accountant (CMA)
- Certified Internal Auditor (CIA)
- Certified Information System Auditor (CISA) Candidate
- Certified Cost Consultant/Certified Cost Engineer (CCC/CCE) Candidate
- Microsoft MCP/MCSE/MCSD/MCDBA (Expired)

PROFESSIONAL WORKING EXPERIENCE

Stellar Services New York, NY 2008 - present

- Manage projects cost by reviewing project-related cost details and purchase orders, liaising between accounting department and project management team, ensuring all costs are accurately charged and appropriated.
- Reclassify and reallocate mischarged items, update revenue schedule for the projects which includes reconciliation of cost with the journal, ledger, work in progress, cost in excess, invoice and contract billing.
- Collect and compilate timesheets and work orders from management, field services and third party contractors.

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- Coordinate with project managers and principals for invoice approval and work authorization.
- Input all consultant invoices and reconcile invoice discrepancies with the consultants, review labor cost and expenses with the project managers, analyze/compare cost against budget allocation for multiple projects, evaluate accrual levels and earned value calculation report, variances to project managers, and forecast cost plan.
- Perform General Ledger review and maintenance including coding, adjusting, closing and balancing accounts, and provide analysis and reconciliation of all ledger accounts.
- Manage the entire monthly, quarterly, and yearly close process to ensure GAAP compliance.
- Compile and analyze financial information to prepare accurate and timely monthly, quarterly and yearly financial statements in compliance with GAAP, such as footnotes and related financial disclosures.
- Maintain and prepare supporting schedules for various balance sheet and income statements accounts, including amortizations schedule, AR and AP aging schedule, inventory and fixed assets schedules, pre-paid expenses, accrued liabilities, interest, defer Revenue account, realized and unrealized gain/loss of investment accounts, and others.
- Review and analyze financial reports to ensure appropriate selection, application and consistency of accounting principles, such as capitalization policy, estimate of AFDA and timely accruals throughout the year, and work closely with the operational departments to ensure that all financial transactions are captured and properly recorded in the appropriate period.
- Produce statistics data and various ad hoc financial reports, such as profit centers P&L report and fixed asset report, to support management decision-making.
- Manage AP/AR to ensure timely AR collection and payment to vendors.
- Manage payroll function for company employees and 1099 contractors and issue required 1099s and W-2s at year end.
- Prepare annual revenue forecast and budgeting, and perform monthly variance analysis.
- Establish and monitor the implementation and maintenance of accounting control procedures to ensure SOX compliance.
- Perform company annual federal and states tax return analysis and provide supporting documents to accounting firm for tax return filing
- Interact with external auditors during quarterly reviews and year-end audits including financial audit preparation and coordination of audit process

Jianmin & Association C.G.A., Toronto, ON, Canada 2007 - 2008
Staff Accountant

- Handled full cycle accounting transaction, including Journal Entries Preparation, Bank Reconciliations, A/P, A/R, General Ledger posting, Trial Balance analysis, Financial Statement generation and Year-end closing and tax remittances.
- Managed payroll function.
- Prepared personal and Corporation Income Tax Returns.
- Managed clients relationship and information.
- Ensured compliance with the necessary statutory regulation and practices.

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MIKE ZHENG

Web Master / Sharepoint Specialist

Mr. Mike Zheng has extensive experience as a Web Maser, Database Administrator and System Engineer. He administers and maintains corporate MS SharePoint 2003 & 2007, corporate Windows 2003 network, and corporate MS Exchange 2003 & 2007. He is familiar with Primavera system and has extensive experience in deploying Primavera 5 stand-alone / enterprise system, my Primavera web application on TomCat and IBM WebSphere, Collaboration server, Primavera 5 stand-alone / enterprise system, Primavera 5 to 6 upgrade He also provides technical consulting on both Primavera 5 & 6.

EDUCATION

Binghamton University (State University of New York) 2002
Bachelor of Science, Computer Science

APPLICATIONS

Program Languages: Visual Basic 6.0, HTML, ASP.Net, XML, Java, Visual C++, C#, PHP
Operating Systems: Windows 2003/XP, MS Terminal Server, LINUX, MS-DOS
Network Knowledge: TCP/IP, SNMP,
Database: MS SQL, MS Access, MySQL
Packet Software: MS Office, FrontPage, MS Project, Visual SourceSafe, Crystal Report, Visio, PC Anywhere, Adobe Photoshop & Illustrator, Macromedia Dreamweaver

PROFESSIONAL WORKING EXPERIENCE

Stellar Services, New York, NY 11/2006 – Present
Web Master / Sharepoint Specialist
Microsoft System

Administrate corporate MS SharePoint 2003 & 2007

- Migrate SharePoint 2003 to 2007.
- Maintain collaboration portal.
- Administer user security.

Administrate corporate MS Exchange 2003 & 2007

- Migrate Exchange 2003 to 2007.
- Administer email accounts.
- Monitor virus, spyware, and malware.

Administrate corporate Windows 2003 network

- Network environment review on total number of users, bandwidth, servers, & storage for migrating mail system from Lotus to Microsoft Exchange.
- Network environment review on bandwidth, servers, & storage for migrating application database from Lotus Notes & Sybase to Microsoft SQL.
- Monitor firewall, network traffic, server performance, & storage usage.
- Check windows application and system logs.
- Administer Active Directory, DNS, DHCP.
- Administer user security.

Administrate Terminal Server

- Deploy terminal licensing server.
- Deploy terminal server 2003.

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- Apply group policies and profiles on domain accounts based on user roles: administrator, technician, software developer, office administrator, and office staff.

Primavera System

Primavera 5

- Deploy Primavera 5 stand-alone / enterprise system.
- Deploy my Primavera web application on TomCat and IBM WebSphere.
- Deploy Collaboration server.
- Upgrade with Service Pack.
- Upgrade Primavera 5 to Primavera 6.
- Deploy Primavera 5 stand-alone / enterprise system.
- Deploy my Primavera web application on TomCat and IBM WebSphere.
- Deploy Collaboration server.
- Technical consulting on both Primavera 5 & 6.

Stellar System

- Administer Stellar OneView System.
- Asset Management System development – Design & QA.

Sparta Holding Corp., New York, NY 06/2005 – 10/2006

Developer

- Designed and developed website written in ASP with use of JavaScript and CSS.
- Built authentication system.
- Maintained website and made enhancements.
- Setup web server and POP3 email server.
- Network administration.

Litian Inc., Elmhurst, NY 04/2004 – 05/2005

Project Manager/Technical Support

- Project estimate based on architect design.
- Installed home network.
- Used Microsoft Excel/Access to manage construction projects: material procurement and work assignation.
- Supervised financial department: employee's payrolls.
- Filed annual Tax report and prepared documents for insurance audit.

IRIS Inc., New York, NY 09/2002 – 04/2004

Software Engineer/Web Application Developer

- Designed and created web pages.
- Developed web-based server applications using ColdFusion, PHP, and ASP.
- Implemented JS script to validate user input on the server side.
- Designed and implemented database in MS Access and MySQL.
- Converted sites from previous ASP/PHP version to ColdFusion.
- Setup FTP server for web servers.
- Upgraded servers with ColdFusion, PHP, ASP support.

H & H Business Express Inc., Woodside, NY 06/2000 – 08/2000

Web Development Assistant

- Maintained company website and update product information.
- Used Microsoft Excel/Access to support photo supply information.
- Assisted developing website using DHTML.

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ONNA KUNG

Field Coordinator

Ms. Onna Kung possesses impressive administrative experience and is very detail oriented. She serves as a liaison between the Client (NYCT) and the Joint Venture Consultants at the MTA Second Avenue Subway Project. She creates analysis and forecast reports to track the project financials through each phase and beyond, institutes controls and reports to eliminate repeat errors in business process, compiles and creates invoices for over 30 companies each month, oversees the monthly manual timesheet inputting process for over 300 employees, and coordinates Real Estate Property issues between owners, DHA, and MTA.

EDUCATION

State University of New York at Buffalo – Phi Beta Kappa, April 2005
B.S., Business Administration, Magna Cum Laude
State University of New York at Buffalo, Feb 2005
B.A., Communication, Magna Cum Laude

APPLICATIONS

Proficient in MS Office (Word, Excel, Access, PowerPoint)
Familiar with QuickBooks, JDEdwards, Adobe Photoshop, Illustrator, Macromedia Dreamweaver, Flash, Windows and Mac OS

PROFESSIONAL WORKING EXPERIENCE

Stellar Services New York, NY 07/2005 - Present

Financial Analyst – MTA 2nd Avenue Subway Project

- Responsible for tracking and updating monthly budget reports.
- Responsible for Real Estate Property coordination efforts between owners, DHA, and MTA.
- Liaison between the Client (NYCT) and the Joint Venture Consultants.
- Coordinate and resolve problems timely and effectively between 30 subconsultant companies and the Joint Venture (DMJM Harris and Arup).
- Implement the concept of cross pollination of job duties amongst team members.
- Maintain and assist in the planning of project personnel relating to the project's operating needs and requirements.
- Create analysis and forecast reports to track the project financials through each phase and beyond.
- Eliminate the need for JDEdwards system in processing monthly employees' data, created a new system using Microsoft Access and Excel.
- Institute controls and reports to eliminate repeat errors in our business process, making it more efficient and cost effective.
- Responsible for timely compilation and creation of invoices for over 30 companies each month.
- Oversee the monthly manual timesheet inputting process for over 300 employees working on the project.

Sales/Marketing Associate

- Responsible for searching, analyzing, reviewing, preparing and responding to RFPs from government agencies and private companies such as JetBlue, Lockheed Martin.

- Run team needed for timely completion of RFP's and RFQ's.
- Responsible for marketing firm's services to private and government agencies in the New York City Area.
- Develop and manage company's marketing materials (Statement of Qualification, tri-fold brochure and leaflets for vendors and clients).
- Responsible for hardware/software sales to New York State & New York City governments and higher education accounts.
- Responsible for the entire cycle of procurement process.
- Work closely with State and Local government agencies' procurement departments.
- Coordinate with inside sales representatives of Dell, Gateway, Cisco, Veritas, BMC on a daily basis.
- Handle minority and small business certifications at the state and local government level to implement firm's goal of expanding network of clients in varied government agencies.
- Create analysis and forecast of sales and profit for company financials.
- Write Training manual for the Department of Defense Office of Secured Transportation

Bamboo Gardens Restaurant Barre, VT 06/2001– 08/2003

- Served as a translator for the owners on everyday issues that arose. i.e. electric companies, gas companies, customer complaints, insurance companies, etc.
- Trained and managed staff of five
- Managed accounting and bookkeeping
- Designed advertisement to be placed in neighborhood travel guide
- Resolved customer problems in a timely, mutually-agreeable fashion - ensured repeat business and customer goodwill
- Managed monthly Accounts Receivable of approximately $22,000
- Expanded business revenue and participation in community by extending service/meals to local schools

HONORS

University at Buffalo Communication Department
Honor Society Jan 2004
Elected to Honor Society Beta Gamma Sigma Jan 2005
Smith Barney Quality of Life competition,
Honorary mention April 2000

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VIRGINIA GUZMAN

Scheduler

Ms. Virginia Guzman has over 10 years of experience with various skills and backgrounds, such as Project Management, resource and cost-loaded CPM scheduling for planning and managing major transportation projects, construction site safety and environmental oversight, and transportation construction project document control management. Ms. Guzman has excessive experience working with the Port Authority, especially working in fast paced Construction and Engineering environments of high profile projects. She has worked with applications such as Primavera 3 & 6.2, Expedition 10.0, Livelink, Microsoft Office products, etc. She is a certified Construction Project Scheduler.

TECHNICAL SKILLS

- Primavera 3 & 6.2, Expedition 10.0
- Livelink
- Windows Vista, Windows XP
- Lotus Notes 6.5
- Omni Page 14.0
- Microsoft Office Professional & 2007, Microsoft Visio 2007, Microsoft Excel 2007, Microsoft Outlook Microsoft Power Point
- Acrobat 9.0

EDUCATION

Borough Manhattan Community College, 11/2006 - 4/2007
Certificate – Construction Project Scheduler
Cuny-Laguardia Community College – New York, NY, 1995 - 1997
Liberal Arts

PROFESSIONAL EXPERIENCE

Fluor Government Group- New York, NY 8/2007 to present
Associate Project Control Scheduler II/ Craft & Equipment Invoice Support
World Trade Center (WTC) Transportation Hub Project

- Work with senior schedulers, project managers, and project engineers to produce comprehensive schedules in various formats and detail.
- Coordinate schedules with project budgets and analyze the validity of schedules submitted by outside parties.
- Monitor actual progress, compare progress to baseline and assist with monthly schedule submission.
- Analyze and report productivity and assist with forecast of the impacts on schedule of proposed changes.
- Prepare monthly cash flow projections by contract package.
- Provide cost loaded schedules for monthly invoicing.
- Prepare time and material invoices accurately and timely, utilizing a variety of time and material billing rate schedules and including complete support documentation, to ensure prompt payment.

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New York, NY 10018
Tel# 212 432 2848
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Lower Manhattan Construction Command Center – New York, NY 2/2006 to 8/2007
Administrative Assistant

- Provide high-level administrative support to Director of Fraud Prevention and the Director of Environmental Compliance.
- Coordinate protocols, contract requirements, and activities regarding environmental protection criteria with individual construction projects, agencies, authorities, and owners.
- Generate presentations for Air Quality Monitoring Program.
- Maintain a high level of communication with environmental agencies and the public, relative to environmental quality and air quality as well as noise and vibration mitigation, in compliance with Environmental Performance Commitments (EPCs), Construction site safety and overall environmental oversight.
- Create and develop the environmental construction equipment tags to conform to EPC's.
- Prepare consultant's contract and invoices for approval and payment.
- Assist in the review of confidential information reporting and research, of potentially fraudulent activity on job sites, including theft, safety hazards, security breaches, bribes or kickbacks, alcohol or drug abuse, prevailing wage violations, or any other unethical or illegal conduct.
- Refer complainants to the agency - Inspector General's office that has jurisdiction over the matter.
- Maintain and modernize database and spreadsheet in relation to information of construction companies.

Port Authority of NY & NJ 3/2002 to 2/2006
(Consultant for Team Support Services) – New York, NY
Document Control
WTC Restoration Project/WTC Permanent PATH Terminal

- Implement a document control filling system, which tracked drawings, correspondence, and various documentation between Port Authority department responsible for World Trade Center Site Development and all internal and external entities.
- File electronic and hardcopy backup, maintain database for Confidential and Privileged documents for internal and external staff, manage distribution of contracts, provide organizational and logistical support for the Environmental Processes for the WTC PATH Hub and Vehicular Security Center.
- Receive, scan, edit, file and circulate documentation for 7 WTC.
- Train staff on computer software; LiveLink, Adobe Acrobat, Excel, and Omni Page.

AirTrain Project

- Log, maintain, and track design drawing submissions on an Excel spreadsheet, manage reproduction and distribution, and file by discipline.
- File closed RFI's.
- Provide administrative support to a team of Electrical, Architectural, Civil, and Structural engineers.

American Airlines – New York, NY – LGA, JFK, EWR 9/1999 to 2/2002
Flight Attendant

- Provide customer service and support for passengers.
- Responsible for performing and assisting in passenger safety in-flight and on the ground.
- Administer First Aid in compliance with government and company regulations.

Garg Consulting Services

Garg Consulting Services, Inc.

Corporate Profile

Founded in 1990, Garg Consulting Services (Garg) is a multi-disciplinary engineering firm headquartered in Rocky Hill, CT with an office in Cherry Hill, NJ. Garg currently employs over 40 employees, mainly working on federal and state projects in Connecticut, New York, New Jersey, and Pennsylvania. Garg is DBE/MBE/SBE certified with many agencies, particularly throughout the Northeast.

Although Garg has experience in a wide variety of disciplines in the transportation industry, its specialty is rail and transit engineering, including power traction supply, catenary, signal and communications, track, and rolling stock engineering. Our staff is comprised of experts with over 20 years of international rail and transit engineering experience. It is Garg's reputation as an experienced and qualified rail engineering firm which has led to Garg's involvement in high profile rail projects throughout the United States.

Other areas of experience and expertise include bridge/structural engineering, highway/roadway design, environmental engineering, construction engineering and inspections, and survey.

Corporate Commitment

Client satisfaction is Garg's chief priority. Garg assures client satisfaction in three main ways:

- A full understanding of the client's needs. Garg's engineers are able to interpret job requirements, execute project tasks, and deliver quality services to the client. Through a wealth of experience and expertise, Garg's experts anticipate and avoid costly project obstacles before they arise.

- Personal service. As a medium-sized firm, Garg's principals and operations managers are able to devote attention to every project, guaranteeing the quality and timeliness of the work. Furthermore, by personally interacting with our clients, our principals and operations managers ensure Garg's flexibility, adaptability, and responsiveness to the client's needs and concerns.

- A commitment to each project. Garg provides complete dedication to each project, no matter how big or small. This includes supplying appropriate staffing to each project, close attention to schedules and budgets, frequent communication with the project owner, and a strict adherence to internal QA/QC procedures.

It is this corporate commitment which allows Garg to consistently provide a quality engineering product *on time* and *under budget*.

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Garg Consulting Services, Inc.

Areas of Expertise and Services Offered

Rail and Transit Engineering

- Rail systems planning and design
- Railroad operations
- Infrastructure impact assessment studies
- Traction power substations and distribution systems
- Overhead catenary systems and third rail traction
- Rolling stock
- Maintenance and storage facilities
- Signaling design
- Communication/security systems, CCTV and public address systems
- Light and heavy rail track
- HVAC

Bridge / Structural Engineering

- Highway/railroad bridge design and rehabilitation
- Highway/railroad bridge inspection and rating analysis
- Design of catenary structures, retaining walls, and facility design

Civil / Environmental Engineering

- Highway/roadway planning and design
- Storm water management systems and drainage design
- Environmental studies and audits
- Site engineering
- Permit application

Construction Engineering and Inspection

- Construction management
- Project management oversight
- Construction inspection services

Survey and Mapping

- Design mapping
- Construction survey

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Garg Consulting Services, Inc.

DBE/MBE/SBE Certifications

The following is a partial list of agencies with which Garg is DBE/MBE/SBE certified:

AMTRAK
Connecticut DOT
DRPA (PA and NJ)
Maryland DOT
Minnesota DOT
New Jersey Transit
North Carolina DOT
PATCO (Pennsylvania)
RTD (Colorado)
SOMWBA (Massachusetts)
Virginia DOT
CTA (Chicago)
Delaware DOT
Empire State Development (New York)
MTA (New York)
New Jersey DOT
New York State DOT
Pennsylvania DOT
Port Authority of NY and NJ
Rhode Island DOT
SEPTA (Pennsylvania)
WMATA (Washington, D.C.)

Mission Statement

Garg is committed to providing our clients with a level of service beyond expectations, offering innovative, cost-effective ideas that will set us apart in the engineering industry. Garg intends to build long-lasting relationships with the engineering community and our employees through honesty, integrity, and respect. Garg guarantees a quality engineering product, on time and under budget, through a commitment to client satisfaction, achieved with first-rate personnel and total dedication to all of our work.

Contact Info and Office Locations

2096A Silas Deane Hwy
Rocky Hill, CT 06067
Tel: (860) 563-0582
Fax: (860) 563-0825

401 Route 70 East
Suite 211
Cherry Hill, NJ 08034
Tel: (856) 429-8010
Fax: (856) 429-0453

KEY CONTACTS

Eugene Y. Chuang, Ph.D., P.E.
CEO

David Gilbert
Vice President

Madan L. Gambhir
NY/NJ Operations Manager

Garg Consulting Services, Inc.

MADAN L. GAMBHIR
Plan Coordinator

EDUCATION
B.S., Electrical Engineering, 1964, Chandigarh, India

PROFESSIONAL AFFILIATION
Fellow Institute of Railway Signal Engineers, UK

Fellow Institute of Railway Signal and Telecommunication Engineer, India

Fellow Chartered Institute of Transport, UK

Life Member Institute of Rail Transport, India

TRAINING & CERTIFICATES
Management Program, 1991

Technical Training/Seminars for Development of Signal Engineering Skills

Mr. Gambhir has over 39 years of national and international experience, including 9 years with consulting firms involved in railroad signaling, communications, catenary and coordination of multi-disciplinary railroad projects. Responsibilities included planning, design, project engineering and installation supervision of major projects for heavy and light rail systems, mass transit, and high-speed rail systems. His experience includes design, construction support, construction inspection, quality control and preparation of plans/CADD drawings, specifications, and rail systems cost estimates. He has extensive transit "systems" design experience including SCADA, Bus & Rail Fleet Management Plans and technical report writing.

GARG CONSULTING SERVICES (2002 to Present)–**Systems Principal Engineer**

- **Amtrak 138 kV System Study-Protective Relay Scheme:** Review & evaluation of available Frequency Converter Technologies, study status and condition of existing Rotary Converters for Amtrak's existing 138 kV transmission system, protective schemes, and evaluation of Amtrak's future requirements for 60 Hz-25Hz Frequency Converters. Evaluated locations, technology for New Conversion Equipment, layout, cost, implementation schedule of SFC and drafted study report.
- **The Advanced Systems Group Technology (ATSG) for Design and Construction Support for CBTC/AWS Signal Systems, Senior Engineer (VII), Electronic/Computer:**
  Developed design/drawings for Railcar Interface Equipment, specifications and provided all construction management support necessary for the installation, test and commissioning of a Communication Based Train Control (CBTC)/AWS for NYCT's Flushing Line.
- **FTA - Project Management Oversight (PMO):**
  - **Stage II Reconstruction &North Shore Connector (NSC) LRT Projects of PAAC – Principal Engineer:** Overseeing modernization and reconstruction of approximately 12 miles of light rail system involving new traction power and catenary, signals, communications and operation control systems. Worked on LRT systems start-up operations, QA/QC reports and integrated schedule of the LRT project for testing and revenue operations. Review and coordination of acquisition of 28 new LRVs and rehabilitation of 55 existing LRVs. Review of Rail and Bus Fleet Management Plans. Design and construction estimate reviews of a new NRC LRT project to include risk assessment and management plan.
  - **Dallas Area Rapid Transit System Extension:** Oversight of design and construction estimate functions involving new track, traction power & catenary, signals, communications and Operation Control Systems. Risk Assessment & Risk Mitigation of the project for systems and track. Review & coordination of Bus and Rail Fleet Management plans. Providing fleet acquisition support for 18 new and retro fitting 37 existing Light Rail Vehicles
  - **Dulles Corridor Metrorail Project-Extension to Wiehle Avenue:** Oversight and review of scope, design, and construction estimate involving track, electric traction, communications and signals, operation control and risk assessment and mitigation.
- **Meadows Maintenance Complex (MMC) Facility Expansion Project, NJ Transit, Principal Engineer:** Provided preliminary and final designs and

engineering for the additions and modifications of over 15000 ft of AC overhead catenary system for expansion of MMC Facility to satisfy growth requirements of the fleet involving interagency coordination & extension of the catenary from the locomotive shop to the layover yard. Continuing design work and construction support services for the MMC complex.

- **Engineering Program Management Services for PATH's New Railcar and Automatic Train Control, Senior Signal Engineer:**
  Developing design-build specifications and construction support for an automatic train control system, including installation of car-borne equipment of the signal system to replace the entire wayside signal system of PATH. Reviewed signal circuit drawings.
- **MTA Long Island Rail Road PN-PE Power Load Study, Principal Engineer:**
  Study of 3rd rail sectionalizing drawings of LIRR system, substations, continuity bonds, and development of single line diagrams of LIRR 3rd rail traction power system. Study of the specifications & data of substations, running rail, 3rd rail configuration and positive and negative feeders for computing system components values for the development of RAILSIM Model.
- **Energy Management Study, AMTRAK, Principal Engineer:**
  Building a RAILSIM model with study, interpretation and incorporating tracks, speed and signaling data in design/drawings for study and evolving energy management model for the traction system.
- **Wayne Junction to Glenside Systems Improvement, SEPTA, PA, Project Senior Engineer:**
  Design and engineering for power supply for the signaling system.

Garg Consulting Services, Inc.

PAUL D. GOODWIN, P.E.

Field Coordinator

EDUCATION

M.S., Civil Engineering, University of Connecticut, 2000

B.S., Civil Engineering, University of Connecticut, 1998

PROFESSIONAL REGISTRATION

Connecticut P.E. Cert # [redacted]

TRAINING & CERTIFICATES

NETTCP HMAPI Cert# [redacted]

NETTCP Nuclear Gauge Certified Cert. # [redacted]

NHI [redacted] Safety Inspection of In-Service Bridges

NHI [redacted] Safety Bridge Inspection Refresher

Fall Protection Awareness Training 29 CFR 1926.503, January 2008

Mr. Goodwin has over 9 years of broad experience in construction inspection, bridge design, bridge safety inspection, bridge evaluations, and load ratings. Mr. Goodwin is experienced in the design of highway structures and is familiar with all governing codes and specifications. He has experience in all aspects of inspection of highway, rail, and overhead sign structures. His expertise includes planning, field inspection, evaluation of structures, maintenance and rehabilitation recommendations, and load rating and strengthening of structures as required. He also has construction inspection experience including nuclear density testing.

GARG CONSULTING SERVICES, INC. (2003 to Present)

- **Raintree Condominiums, Construction Management and Inspection.** Providing Resident engineering, construction management and inspection for the reconstruction of a 1000-foot long road (2005).
- **On-Call Railroad Engineering and Construction Service**. Providing construction inspection oversight and management services as needed, working directly with Metro North personnel (2005-2006).
- **Construction Supervision of I-84 Reconstruction, Cheshire & Southington, CT, ConnDOT.** Responsibilities included, but were not limited to, construction inspection supervision of the reconstruction of I-84, including 2 bridges. Also provided nuclear density testing and reporting (2004).
- **Radio Tower System Upgrade, NYCT-MTA.** Duties included, but were not limited to field inspection/investigation of existing radio tower structures and future site locations, preparation of site plans, structural analysis of existing structures, design of new structures, and preparation of design plans (2007-2008).
- **Lakewoods Subdivision, Construction Management and Inspection.** Providing Resident engineering, construction management and inspection for the construction of a 2,600-foot long road including extensive underground utility installations, permit monitoring and quality control (2006).
- **Metro North Railroad New Haven Line Bridge Inspection Program, ConnDOT – Team Leader.** Bridge safety inspection and evaluation of railroad bridges associated with Metro North's Mainline and several Spur Lines in southwestern Connecticut from the New York State line to New Haven and north to Waterbury (2002-2005).
- **Complex Bridge, Overhead Sign Supports, and Mast Arm Traffic Signal Supports Inspection, ConnDOT – Team Leader.** Safety inspection and evaluation and Load Rating analysis of various highway structures located throughout Connecticut. Duties include, but not limited to structural inspections, procurement and coordination of inspection and safety equipment, and bridge load rating analyses (2003 to Present).
- **Rehabilitation of the Metro-North Railroad Walk Swing Bridge, Norwalk, CT, ConnDOT - Project Engineer.** In charge of bridge inspection. Duties included, but not limited to the bridge structural inspection, procurement of rigger services, safety boats, operator, safety persons and the development of the bridge rehabilitation program (2005–2008).
- **Rehabilitation of the Metro-North Railroad Bridge over the Saugatuck River, Westport, CT, ConnDOT – Project Engineer.** Field inspection of catenary and high towers condition, load rating, stress analysis and final rehabilitation report (2008).

COMPUTER SKILLS

MARC, Fortran 77, ROBOT V6, EG&G M270 v4.23, CorrWare version 2.0, BAR 7, BOX 5, PS3, STAADPro 2002, VIRTIS 5.0, SABRE, Bentley MicroStation v8

- **Rehabilitation Study of Metro North Walk Swing Bridge High Towers, Norwalk, CT, ConnDOT – Team Leader (2007).**
- **Connecticut Biennial Underwater Bridge Inspection Program, ConnDOT – Team Leader (2005 to Present).**

L-C ASSOCIATES (1999 to 2003) – Team Leader / Bridge Engineer

- Bridge Engineer - I-91 / I-95 / Route 34 Interchange Substructure Design (2003)
- Assistant Team Leader - Mass Highway Statewide Bridge Load Rating Contract (2001 – 2003)
- Bridge Engineer - Rehabilitation study of Textile Avenue Bridge, Lowell, MA (2000)
- Team Leader - CT New Haven Line Railroad Bridge Inspection Program (2002 – 2003)
- Team Leader - CT Statewide Overhead Sign Structure Inspection and Evaluation (1999 – 2002)
- Team Leader - Emergency Mast Arm Traffic Signal Support Structure Inspections. ConnDOT (2002)
- Assistant Team Leader - Metro-North Railroad Bridge Inspection Program (1999 – 2002)
- Assistant Team Leader - CT Biennial Complex Bridge Inspection Program (1999 – 2002)
- Assistant Team Leader - Mass Highway Biennial Bridge Inspection Program (2002 – 2004)
- Assistant Team Leader - Jamestown Verrazzano Bridge for RIDOT (2001)
- Assistant Team Leader – Massachusetts Bay Transit Authority Pedestrian Bridge Inspection (2001)

Garg Consulting Services, Inc.

DAVID L. ORDAS
Plan Coordinator

EDUCATION
MBA, Iona College, 1997

BS, Management, Dominican College, 1993

PROFESSIONAL AFFILIATIONS
AREMA Member 1984

Committee 11 Commuter and Intercity Rail System, 1997-2004

Committee 11 Chairman, 1999-2003

Committee 11 Vice Chairman, 1997-1999

Committee 17 Member, 1994-2004

Transportation Research Board Committee TRN 229

Mr. Ordas has over 20 years experience in Project Management. He has worked on High Speed Initiatives for improvements on Metro North's New Haven Line to enhance the operation of Amtrak Service. He has experience in Track, Structures, Power, Communication and Signal Engineering. He also has Maintenance of Way (Track) Management experience.

Mr. Ordas has been directly involved in the following Metro North projects:

- Evaluation of Port Jervis Main Line: Set priorities on track renewal programs (66 track miles, including rail, ties and turnouts)
- Design and construction of Upper Loop Track (GCT), New Haven Interlocking, Stamford Yard, and Shell Interlocking
- Managed High Speed Interlockings improvements on Metro North's Harlem, Hudson, and New Haven Main Lines
- Initiated Metro North Concrete Tie Programs

GARG CONSULTING SERVICES, INC. (2004 to Present)
Project management and QA/QC for various projects.

MTA METRO NORTH COMMUTER RAILROAD (1998 to 2004) – Director High Speed Rail Operation
As a liaison to Amtrak, represented Metro North in the development of programs to improve Amtrak operations. Over 160 million dollars was programmed for projects in the State of Connecticut. Over 70 million dollars was committed for improvements at New Rochelle (Shell Interlocking) in New York. Major projects included reconfiguration and renewal of New Haven Interlocking, renewal of Stamford Interlocking, installation of twenty-track miles on concrete ties, including rail renewal.

- **Condition Evaluation of Port Jervis Main Line, NY:** Metro North Commuter Railroad assumed the maintenance responsibilities of the Port Jervis Main Line between Suffern, NY and Port Jervis, NY. This included 66 miles of main track, including all siding and interlockings. Evaluated the condition of the track and interlockings (turnouts) to set up improvement programs. Inspection of the 66 miles of track and all turnouts was completed. A program was developed for rail renewal, tie and surfacing and turnout replacements programs. Responsible for the contract negotiations for installations of rail, ties and surfacing with New Jersey Transit.
- **Shell Interlocking Improvements, NY:** This project involved the reconfiguration of the Shell Interlocking, which included the installation of a new interlocking at CP 215 and reconfiguration and replacement of CP 216 and CP 217. Final alignment allowed a 45 MPH connection with Amtrak's Hell Gate Line to Penn Station. Project was funded with Amtrak's high-speed improvement project on the New Haven Line in New York. Liaison with the MN Capital Department and Amtrak. Member of the design team which represented the operating department at all planning and design meetings. Other responsibilities included project construction schedule and material procurement for track department.
- **High Speed Interlockings Improvements on Metro North's Harlem, Hudson, and New Haven Main Lines, NY and CT:** The installation of High

Speed interlocking improved operational flexibility of the railroad. Metro North, Amtrak and Connecticut Rail developed programs to improve the operating speeds on the New Haven Main Line. Southport, Connecticut was the location, which was selected for the installation of a new High Speed Interlocking (CP 248). Managed High Speed Interlockings improvements on Metro North's Harlem, Hudson, and New Haven Main Lines. Responsible for planning, oversight of design, track material procurement, budget estimates, and installation schedules.

- **Grand Central Terminal Loop Track, NY:** This program involved the complete replacement of the upper loop in Grand Central Terminal. Designed and managed the development of track material specifications and procurement. Cooperated with the design consultant to program construction schedule to meet the railroads requirement.
- **New Haven Interlocking Reconfiguration, CT:** This project involved the complete renewal of all turnouts and track between CP 272 and CP 275. Signal and power facilities were replaced with new modern equipment and complete replace of the catenary system. This terminal is largest on the New Haven Line and the end of Metro North operations. Coordinated requirements with Metro North, Amtrak, and Connecticut Rails Division from all departments for Metro North. Provided all design requirements for Metro North.

MTA METRO NORTH COMMUTER RAILROAD (1992 to 1998) – Director Force Account Management

Developed and managed project controls with met requirements of funding agencies, MTA, FTA, and Metro North. Developed criteria for project planning, scope development, estimating, and budgeting. A procedure to control projects was implemented to track project spending by task, measured percentage of work completed versus monies expended. Budget to actual reports were provided to control the monies allocated to the Capital Plan. The budgets for Operating Department Projects exceeded 200 million dollars for MTA Capital 5 year plan. Connecticut committed over 100 million in funding for Capital Improvements.

METRO NORTH COMMUTER RAILROAD, New York, NY (1984 to 1992) – Deputy Chief Engineer/Assistant Chief Engineer

Prepared Capital Programs for the Operating Department. Responsible for the management of Capital Project for Operating Department. Coordinated, scheduled, and inspected work performed by third-party contracts for the Operating Department. Interfaced with the Capital Engineering Department to resolve any issues, involving the Operating division. Developed improvement programs for capital funding by ConnDOT and Amtrak. Represented Chief Engineer in all Capital Program-related issues with Amtrak, Connecticut, FRA and FTA.

Envision Consulting Limited

envision CONSULTANTS, LTD. | Project & Construction Management Services

Envision...The Keys To Success

- Front End Planning
- A Well Defined, Flexible Work Breakdown Structure
- Effective Project Control
- Thorough Inter-Discipline Coordination
- Precise Tracking of Progress

Envision Consultants, Ltd. is an established woman owned business with over fourteen years of experience. Our commitment to client satisfaction has resulted in the successful completion of diversified construction projects, from highways, transit systems and educational facilities throughout the United States. Our corporate philosophy is to focus on our clients' needs and objectives with individualized and unique project support services, so you can move your projects forward with confidence.

"On time and on budget." When all is said and done, these five words are the ultimate measure of your project's success. Effective planning is the key to achieving your cost and scheduling objectives. Envision has worked with companies all over the world to develop effective engineering and construction control systems. Let Envision create a project management system for you, allowing you to track progress and resources, document change orders and avoid the loss of revenue resulting from engineering and construction claims.

Specifically our services include:

- CPM Scheduling
- Document Control
- Cost Estimating
- Budget Cost and Change Control
- Building Information Modeling
- Claims Analysis/Dispute Resolution
- Community Outreach
- Value Engineering
- Primavera Software Training, Implementation and Consulting
- Synchro 4-D Building Information Modeling Software Training and Consulting

Certified DBE■WBE■SBE

PRIMAVERA SERVICE PARTNER

Synchro
Explore options. Manage solutions.

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Paul Rudderow

Scheduler

Paul Rudderow, a Planning & Scheduling Professional, has over 20 years of experience in project controls, and claims consulting. Mr. Rudderow joined Envision as a Senior Consultant of the Project Controls Group. His experience spans a variety of facilities, including transportation facilities, schools, commercial buildings, prisons and power, cogeneration, biopharmaceutical manufacturing, environmental, and semi-conductor facilities. Mr. Rudderow has managed project controls groups, served as on-site project controls supervisor, acted as owner's representative for estimates and schedules, and performed project management and superintendent duties. Mr. Rudderow's software experience includes MS Visio, MS Projects, Primavera Project Planner (P3 & P6), Primavera SureTrak, Primavera Contract Manager, SAP Project Systems, Accelerated Project Scheduler 6, and QuickPen AutoBid Mechanical Estimating.

Project Experience

Envision Consultants Ltd., Mullica Hill, New Jersey ***November 2009 - Present***
Senior Scheduler/Claims Consultant

The following list demonstrates a small sampling of the diverse projects Mr. Rudderow has worked on while at Envision:

- **FTA PMO Oversight Region VIII, Denver, CO** Envision is a sub consultant to STV, Inc. accountable for schedule review/oversight and participation in Risk Assessment and Cost Workshops that include the East Corridor Extension and the Gold Line Extensions for RTD. Mr. Rudderow is responsible for understanding and meeting FTA Guidelines as it relates to the schedule oversight, risk assessment and overall cost of the project. His role requires strong communication, writing and team participation skills while working on this type of assignment.
- **SEPTA Silverliner Railcar Procurement** Envision is a sub consultant to STV, Inc. accountable to review the car builder's baseline manufacturer schedule and progress updates, and review schedule for potential claims and mitigation.
- **NJ Transit 69th Street Project** Envision is a sub consultant to STV, Inc. accountable to review the contractor's baseline manufacturer schedule and progress updates, and review schedule for potential claims and mitigation.
- **PennDOT CM/CI – SR 1058 PA 63/309 Connector Phase 1** Envision is a sub consultant to Pennoni accountable for schedule review/oversight. Mr. Rudderow is responsible to analyze and evaluate the CPM schedule for the construction project in conjunction with the contract documents and the contractor's submitted CPM schedule monitoring progress during construction.
- **West Philadelphia Replacement High School, Philadelphia, PA** Envision is a sub consultant to Felder/Armand JV accountable for the review of the

contractor's schedule that is cost and resource loaded.

Hill International, Marlton, New Jersey ***March 2003-November 2009***
Managing Consultant

Accountable for performing project document and schedule reviews, identifying project schedule critical paths, identifying possible causes for project delays and creating graphical representations of the as-planned and as-built critical paths. Overlaying project activities that affected the schedule and identifying possible causation for delays. Developed matrix spreadsheets to identify project issues, available supporting information, possible entitlement and estimated delay time periods. Performed site visits at multiple locations for inspecting, photographing and documenting actual site conditions for completed work. Verifying quality of completed work and reported percent complete. Performed monthly analysis of contractor's supplied project schedules by comparing current schedule with previous month's schedule. Identifying progress and logic change per schedule update and developing earned value systems for tracking and graphing contractor's reported progress.

PSEG Energy Technologies, Edison, New Jersey, ***July 1999 - March 2003***
Manager of Project Controls

Day & Zimmerman International, Inc., Philadelphia, PA ***December 1995 - July 1999*** ***Supervisor, Project Controls***

Quasar Engineering, Inc., Ewing, NJ ***October 1992 - December 1995***
Manager, Project Controls

Integrated Project Services, Conshohocken, PA ***April 1991 - October 1992***
Project Engineer Estimator

Bannett Builders, Cherry Hill, NJ ***June 1986 - April 1991***
Senior Project Manager/Estimator

M & R Construction Company, Cherry Hill, NJ ***June 1983 - June 1986***
Jr. Estimator/Project Coordinator

Education

MS in Engineering Management, New Jersey Institute of Technology, 2005
BS Construction Management, Drexel University, 1994
AS Architectural Design, Mercer County Community College, 1983

Computer Skills

MS Office
Primavera Project Planner (P3) (P6), SureTrak, Contract Manager
SAP Project Systems, QuickPen AutoBid Mechanical Estimating

Registrations

PMI Planning and Scheduling Professional (PSP)

Memberships

AACE & PMI

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Stephen Malaszecki

Scheduler

Stephen Malaszecki is Envisions Vice President and Senior Project Controls Engineer. He has over thirty years of experience working in the Construction Industry and is also a certified trainer with Primavera Scheduling Software. Mr. Malaszecki brings to the firm a unique blend of skill sets to assist clients in managing projects on time and within budget. Mr. Malaszecki has been involved in the project controls function on projects ranging from one million dollars to over one billion dollars. He has worked on public and private design, engineering and construction projects. He has performed scheduling and dispute resolution in the following business sectors: educational facilities, general building, transportation, refineries, power plants, highway construction, industrial building and water treatment systems. He is consistently involved in multiple projects, and successfully demonstrates commitment, client satisfaction and responsibility in such an environment. His responsibilities include developing the master schedule along with detailed project schedules, budget cost estimate review, cost control, document control, progress payments and cost at completion estimates along with claims avoidance and dispute resolution. While at Envision Consultants, Mr. Malaszecki has conducted numerous Planning and Scheduling Training Seminars utilizing Primavera Project Planner for federally and state funded construction projects. Mr. Malaszecki has been involved with various schedule delay claims and has mitigated over fifty million dollars to date in his client's favor.

Project Experience

Envision Consultants Ltd. Mullica Hill, New Jersey ***December 1994 - Present***
Vice President

The following list demonstrates a small sampling of the diverse projects Mr. Malaszecki has worked on:

- South Corridor Light Rail Project, Charlotte, NC
- San Francisco MUNI Tunnel Project (PMO)
- Newark Elizabeth Light Rail Project
- Denver West Corridor (PMO)
- SEPTA Silverliner Railcar Project
- SEPTA Silverliner Delay Claim Mitigation
- Please Touch Museum
- Gloucester High School
- Avon/Woodland Schools
- Delaware County Penn Dot Signals Project
- Fort Dix New Taxiway and Apron
- South Jersey Light Rail Transit Building
- Harrisburg Multi-Modal Facility
- SEPTA Paoli Remediation Project

- Lehigh School HVAC Claim
- Timberline Elementary School Claim
- Mantua Creek Generator Project
- New Jersey Turnpike Bridge Widening Project
- Philadelphia City Hall Renovations Project
- Route 41 Reconstruction Project
- Route 30 PM2 Road Project
- Veterans Administration Hospital 4th Floor Renovations
- West Chester University
- William J. Hughes Justice Center
- William Sayre High School
- Women's Detention Center Northeast Philadelphia

Flour Daniel Marlton, NJ *January 1990 – December 1994*
Senior Project Controls Engineer

Parsons-Brinckerhoff Construction Services Philadelphia, Pennsylvania
April 1987 – January 1990 Senior Project Controls Engineer

Frankford Elevated Reconstruction Project - SEPTA, Philadelphia, PA.

RCA Astro Electronics Hightstown, NJ *October 1982 – April 1987*
Scheduler

Conversion Systems Incorporated Horsham, PA *March 1980 – October 1982*
Planning and Scheduling Engineer

Education

B.S. Marketing Management, Holy Family College, 1991

Professional Certification

Certified Primavera Trainer 2/94,

Computer Skills

Primavera P3, P6, Pertmaster, SureTrak, MS Office, MS Project, Adobe

I. MBE/WBE Participation

Stellar Services

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Kenneth J. Ringler, Jr.
Executive Director

Certified

by

Small Business Programs

4 U Services, Inc. d/b/a

Stellar Services

Certificate PA-20128

This certificate acknowledges that the above named firm is certified as a **Minority-owned Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
General Manager
Certified: August 4, 2006

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: August 3, 2011

Form: 6/10/93

Garg Consulting Services

FEB-19-2004 13:17 GARG CONSULTING 609 429 0453 P.02/02

THE PORT AUTHORITY OF NY & NJ

Jack G. Sinagra
Chairman

Joseph J. Seymour
Executive Director

Certified

by

Business & Job Opportunity

Garg Consulting Services, Inc.

Certificate PA-612

This certificate acknowledges that the above named firm is certified as a **Minority Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a Verification Statement attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business, which affects ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Wilfred Chabrier
General Manager
Certified: April 5, 2002

Rosemary Jenkins-Varela
Senior Policy Analyst
Scheduled Re-evaluation: April 4, 2007

TOTAL P.02

Rev. 6/16/93 RJV

GARG CONSULTING SERVICES, INC.

ENGINEERS • CONSULTANTS • CONSTRUCTION MANAGERS

September 1, 2009

The Port Authority of NY & NJ
Office of Business & Job Opportunity - Certification Unit
233 Park Avenue South, 4th floor
New York, NY 10003

Re: Recertification – Minority Business Enterprise for Garg Consulting Services, Inc.

Dear Manager;

Please find enclosed our application for re-certification as a Minority Business Enterprise (MBE) by the Port Authority of NY & NJ, duly signed.

If you should have any questions, please contact me at (856)429-8010 or our President /CEO Eugene Chuang at (860)563-0582.

Very truly yours,

Madan L. Gambhir
Operations Manager

New Jersey Office: 401 Route 70 East, Suite 211, Cherry Hill, NJ 08034 Tel: (856) 429-8010 Fax: (856) 429-0453
Connecticut Office: 2096A Silas Deane Highway, Rocky Hill, CT 06067 Tel: (860) 563-0582 Fax: (860) 563-0825
NJ E-mail: garg-nj@gargengineering.com www.gargengineering.com **CT E-mail:** garg-ct@gargengineering.com

Envision Consulting Limited

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Kenneth J. Ringler, Jr.
Executive Director

Certified

by

Business and Job Opportunity

Envision Consultants, Ltd.

Certificate PA-18628

This certificate acknowledges that the above named firm is certified as a **Woman-owned Business Enterprise**. This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a Verification Statement attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions. Please reference the above number on all correspondence directed to this office.

Lash Green
General Manager
Certified: February 8, 2005

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: February 8, 2010

Form 9/10/93

J. Affiliates

J. Affiliates

The Louis Berger Group, Inc.

- **Ammann & Whitney Consulting Engineers, P.C.**, 96 Morton Street, New York, NY, 10014
- **Ammann & Whitney, Inc.**, 96 Morton Street, New York, NY, 10014
- **Berger Avart, Inc.**, 1150 NW 72nd Avenue, Ste. 350, Miami, FL 33126
- **Berger Devine Yaeger, Inc.**, The Uptown Theatre Building; 3700 Broadway, Suite 300; Kansas City, MO 64111
- **Berger Group Holdings, Inc.**, 412 Mount Kemble Avenue, P.O. Box 1946, Morristown, NJ 07962
- **Berger Group of Companies, Inc.**, 412 Mount Kemble Avenue, Morristown, NJ 07962
- **Berger Group West, P.C. dba Louis Berger Group, Inc. in CA**, 7825 Fay Avenue, Ste. 256, La Jolla, CA 92037
- **Berger Latinoamerica, S.A.**, Corrientes 538, 8vo. Piso; 1043 Buenos Aires, Argentina
- **Berger, Lehman Associates, P.C.**, 411 Theodore Fremd Ave; Rye, NY 10580
- **Berger/ABAM Engineers, Inc.**, 33301 Ninth Avenue South, Ste. 300; Federal Way, WA 98003-2600
- **Brokonsult AB**,Per Sundbergs, Vag 1-3; S-183 63 Taby, Sweden
- **CHELBI Engineering Consultants, Inc.**. Ding 28 Gouzijian St.; An Nei; Beijing 100007, China
- **Development Economics Group, Inc fka Pavement Profiler, Inc.**, 412 Mt. Kemble Ave., Morristown, NJ 07960
- **ENCO - Consultoria E Servicos, Limitada**, Av. Paulo Samuel Kankhomba 622, Maputo, Mozambique
- **ENDER, Inc.**, 20 Corporate Wood Blvd.; Albany, NY 12211-2370
- **Greyhawk North America, LLC,** 260 Crossways Park Drive, Woodbury, NY 11787
- **HBF S.A.S.**, 55 bis quai de Grenelle Tour Mercure III, 75015 Paris, France
- **Ingecam S.A.R.L. B.P.**, 5009 Nlongkak; Yaounde, Cameroon
- **International Ventures Corporation**, 412 Mt. Kemble Ave., P.O. Box 1946, Morristown, NJ 07962
- **Klohn Crippen Berger Holdings, Ltd.**, Suite 500; 2955 Virtual Way; Vancouver, BC Canada, V5M 4X6
- **Klohn Crippen Berger Ltd.**, Suite 500; 2955 Virtual Way; Vancouver, BC Canada, V5M 4X6
- **Klohn Leonoff Consultants Ltd.**, Suite 500; 2955 Virtual Way; Vancouver, BC V5M 4X6
- **Louis Berger & Assoc., P.C.**, 412 Mt. Kemble Ave., P.O. Box 1946, Morristown, NJ 07962
- **Louis Berger & Assoc., P.C. (a PA Corporation)**, 412 Mt. Kemble Ave., P.O. Box 1946, Morristown, NJ 07962
- **Louis Berger & Assoc., P.C. (Mass)**, 75 Second Avenue; Needham, MA 02154
- **Louis Berger & Associates (DC), P.C.**, 2300 N Street, NW; Washington, DC 20037
- **Louis Berger & Associates R.I., Inc.**, 295 Promenade St.; Providence, RI 02908
- **Louis Berger & Associates, Inc. (Illinois)**, 412 Mt. Kemble Ave., P.O. Box 1946, Morristown, NJ 07962

- **Louis Berger (Canada) Limited**, 1668 Barrington St., Suite 500; Halifax, Nova Scotia; Canada, B3J2A2
- **Louis Berger (UK) Limited**, 103-105 Roberts House; Hammersmith Road; London, W14QH
- **Louis Berger Algerie Sarl**, 8 Ilot 7 Lotissement Krim Belkacem -Dar el Beida - Algeria
- **Louis Berger Asia Limited fka Louis Berger Finance & Development Company, Ltd. (Hong Kong)**, c/o Stevenson, Wong & Lai; Rooms 2002-2004, 20th Flr, Edinburg Tower; The Landmark; 15 Queen's Rd
- **Louis Berger France SAS fka GEODE (Geston Economie Organisation poiur le Develeppement)**, Tour Mercure III-4th floor; 55 bis, quai de Grenelle; 75015 Paris
- **Louis Berger Incorporated, Nigeria**; 110 Lewis St.; 6th Floor; Lagos, Nigeria
- **Louis Berger Nevada, Inc.**, 500 Amigo Court, Ste. 100, Las Vegas, NV 89119
- **Louis Berger Romania fka Dinamic SRL**, Macedonia Street No. 24, Apt. 1, Bucharest, Romania
- **Louis Berger Route Yaounde S.A.R.L,** B.P. 5009-Nlongkak; Yaounde, Cameron
- **Louis Berger S.A.S. fka Louis Berger S.A.**, Tour Mercure III-4th floor; 55 bis, quai de Grenelle; 75015 Paris
- **Northern Fidelity Insurance Company**, P.O. Box 1179, Hamilton, HM EX, Bermuda
- **The Louis Berger Group Phils., Inc. fka Louis Berger International, Inc.**, TM-8910 Milelong Center; Amorsolo sor Herrera Streets; Legaspi Village; Makati City, Philippines
- **The Louis Berger Group, Inc., F.S.C. (Virgin Island)**, 5 Kronprindsens Gade; P.O. Box 8560; Charlotte Amalie; St. Thomas, U.S. Virgin Islands 00801
- **The RBA Group Inc.**, Engineers, Architects and Planners; One Evergreen Place, Morristown, NJ 07962-1927
- **Urban Engineering Systems, Ltd. fka SeaConsult Ltd (Thailand)**, 10th Flr. Q House Convent Building; 38 Convent RD., Silom Bangkok 10500 Thailand

Urban Engineers

- **Urban Engineers, Inc.: Philadelphia, PA; Mechanicsburg, PA; Warrendale, PE; Pennsauken, NJ; Hartford, CT; Baltimore, MD; New Castle, DE**
- **Urban Engineers of Erie, Inc.: Erie, PA**
- **John H. Robinson Testing, Inc.: Erie, PA**
- **Urban Construction Systems, Inc.: Philadelphia, PA**
- **Urban International, Inc.: Philadelphia, PA**
- **Marvin Waxman Consulting Engineers, Inc.: Philadelphia, PA**

K. Contract Exceptions

The Louis Berger Group, Inc.

THE LOUIS BERGER GROUP, INC.
412 Mount Kemble Avenue PO Box 1946, Morristown, NJ 07962-1946
Tel (973) 407-1000 Fax (973) 267-6468 www.louisberger.com

Contract Exceptions Statement:
Request For Proposals For Performance of Expert Professional Planning, Project Management and Related Services as Requested on a Call-In Basis During 2010-2014 for the Port Authority Trans-Hudson Corporation (PATH) (RFP#19980)

The Louis Berger Group, Inc. agrees with the standard agreement and its terms and conditions without any exceptions, with the following notice:

23. CERTIFICATION OF NO INVESTIGATION (CRIMINAL OR CIVIL ANTI-TRUST), INDICTMENT, CONVICTION, DEBARMENT, SUSPENSION, DISQUALIFICATION AND DISCLOSURE OF OTHER INFORMATION

By proposing on this Agreement, each Consultant and each person signing on behalf of any Consultant certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, that the Consultant and each parent and/or affiliate of the Consultant has not:

...

G. been, and is not currently, the subject of a criminal investigation by any federal, state or local prosecuting or investigative agency and/or a civil anti-trust investigation by any federal, state or local prosecuting or investigative agency.

The Louis Berger Group, Inc. (LBG) is the subject of an investigation by the US Attorney's office, pursuant to a grand jury subpoena. Neither LBG nor any of its directors, officers, or employees has been charged with any crime or impropriety. LBG has been required to produce general corporate and financial information and specific records about contracts for work in Iraq and Afghanistan for the United States Agency for International Development and the Department of Defense. LBG has learned through its outside counsel that the investigation concerns some aspect of those contracts, and that it is a potential target of the investigation. LBG continues to cooperate fully with this investigation and any ongoing document production requirements.

Urban Engineers

Urban's Exceptions:

We request that the Authority consider the following changes to the Authority's proposed terms and conditions for this assignment, as contained in the RFP:

Paragraph # 3 of the terms and conditions:

Urban requests that the second sentence be deleted, as we have been historically advised by our Brokers that "Time of essence" is an uninsurable guarantee. We propose the following as alternative language to the deleted sentence: "The Consultant acknowledges the importance to the PANYNJ of the project schedule. The Consultant, in a manner consistent with responsible professional standards, will make diligent and good faith efforts to respond professionally with promptness in order to meet reasonable deadlines and schedules of the PANYNJ."

Paragraph #23 – We request that this section shall be deleted in its entirety and replaced by the following:

"The Consultant will indemnify and hold harmless the Port Authority against claims, loss and damage, of any nature to the extent caused by the Consultant's negligence, fraud, willful misconduct or unlawful conduct or breach of agreement.

Inasmuch as the Authority has agreed to indemnify the City of New York against claims to the same extent as described in the paragraph above made against said city for which the Consultant is to indemnify the Authority, the Consultant's obligation under the paragraph above shall include claims by said city against the Authority for such indemnification.

The Authority will indemnify and hold harmless the Consultant against claims, loss and damage, of any nature to the extent caused by the Consultant's performance of its services hereunder, unless such loss or damage arises out of the Consultant's negligence, fraud, willful misconduct or unlawful conduct or breach of agreement."

Paragraph #22 (Liability Insurance and Workers' Compensation Insurance – We request that a new sentence be added to the end of the first paragraph to read as follows, "The Consultant can meet the foregoing Commercial General Liability and Auto Liability insurance limits utilizing its Excess/Umbrella Insurance policy."

Delete the endorsement language in italics at the end of A. 1.).

A.2.) (Additional Coverage)- kindly add, "To the extent available at commercially reasonable terms," to the beginning of the 1st sentence.

Also, for Professional Liability (Section C, line 1) change the reference from per "occurrence" to per "claim".

D (Compliance)- Modify the first paragraph as follows, add a period after "Agreement number" at line 3 and delete remainder of the paragraph.

Add the Following to the Proposal

However, nothing herein imposes upon the Monitor the responsibility for job site safety or to cause the Monitor to become a generator, disposer or arranger of the disposal of hazardous Wastes/ Monitor will

L. Conflict of Interest

The Louis Berger Group, Inc.

THE LOUIS BERGER GROUP, INC.
412 Mount Kemble Avenue PO Box 1946, Morristown, NJ 07962-1946
Tel (973) 407-1000 Fax (973) 267-6468 www.louisberger.com

January 14, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010
Attention: RFP Custodian

Re: **Conflict of Interest Statement for RFP No. 19980, Performance of Expert Professional Planning, Project Management and Related Services as Requested on a "Call-In" Basis During 2010 Through 2014**

Dear Sir/Madam:

To the best of our knowledge, The Louis Berger Group, Inc. does not have any Conflicts of Interest or potential Conflicts of Interest which might arise should Berger be awarded this Agreement.

Sincerely,
THE LOUIS BERGER GROUP, INC.

Charles "Chuck" F. King, P.E.
Vice President
Program & Construction Management

Urban Engineers

CERTIFICATION STATEMENT:

It is uncertain whether Urban Engineers, Inc. may be able to make the Certification (Certification of No Investigation, Criminal Or Civil Anti-Trust, Indictment, Conviction, Debarment, Suspension, Disqualification and Disclosure Of Other Information) as referenced at page 5 of the RFP (VI (A) Additional Information), based upon a determination of ineligibility of the New Jersey Department of the Treasury. I believe this determination does not relate to Urban Engineers' integrity and is not based on a finding of conduct demonstrating a lack of integrity. But because of the uncertainty surrounding this I submit the following explanation of the attendant circumstances.

On December 20, 2007 and December 26, 2007, Urban Engineers, Inc. ("Urban"), an affiliate of Urban Engineers of New York, P.C., was notified that the New Jersey Department of Treasury ("Treasury") had determined Urban was ineligible for the award of two State contracts, one with the New Jersey Economic Development Authority ("NJEDA") and one with the New Jersey Department of Transportation ("NJDOT"). This was based upon a mistaken but entirely legal, political contribution to a county political party committee in south New Jersey. This contribution was fully disclosed by Urban as required by Chapter 51 (N.J.S.A 19:44A-20.14 *et seq.*) to both the NJEDA and NJDOT in the course of procurement for two separate contracts. Treasury's ultimate determination was based upon on a review of this information. The total contribution was $750 which was $450 over the provisions of the statute that restrict the state from awarding a contract if the contribution is more than $300.

Urban Engineers, Inc. requested a refund of the contribution from the committee, however the refund was not received until more than thirty (30) days after the date the contribution was made. Treasury determined that the relevant statutes impose absolute liability for the contribution if the refund is not received within the thirty (30) day period following the date of the contribution.

I can state on behalf of Urban that the contribution was not made with any bad motive or purpose. There was no intent to influence any decision of the State. In fact, in the State's brief submitted in opposition to Urban's motion for a stay and preliminary injunctive relief, dated March 27, 2008 New Jersey Deputy Attorney General Cynthia Hackett, stated that:

> "The disqualification under Chapter 51 **in no way reflects on Urban's qualifications as an engineering firm. The State has not debarred Urban or imposed a civil or criminal penalty; it has merely imposed contract award restrictions on State agencies and independent authorities** in order to safeguard the integrity of State government procurement." (Emphasis supplied.)

I have also learned from the website of the New Jersey Department of Treasury that the provisions of Chapter 51 will not be followed if federal funding is provided by the Federal Highway Administration. I have also been informed that New Jersey has enacted legislation which recognizes this limitation on the application of the Chapter 51 restrictions if it is determined that its application would violate federal law or regulation.

In addition, Treasury's ineligibility determination does not prohibit Urban from participating in State contracts in New Jersey as a sub consultant.

As noted, Urban appealed Treasury's determination but ultimately withdrew its appeal in the Appellate Division on July 31, 2008. Urban will again be eligible for award of State contracts, at noon January 19, 2010.

Edward M. D'Alba
President
Urban Engineers of New York, P.C.
Urban Engineers, Inc.

DATE: 1/13/10

Forms & Certifications

The Louis Berger Group, Inc.

THE UNIVERSITY OF THE STATE OF NEW YORK
EDUCATION DEPARTMENT

THIS IS TO CERTIFY THAT HAVING MET THE REQUIREMENTS OF SECTION 7210 OF THE EDUCATION LAW AND IN ACCORDANCE THEREWITH THIS CERTIFICATE OF AUTHORIZATION IS GRANTED WHICH ENTITLES

LOUIS BERGER & ASSOC PC
4122MOUNT KEMBLE AVE
PO BOX 1946
MORRISTOWN, NJ 07960-0000

TO PROVIDE PROFESSIONAL ENGINEERING SERVICES IN THE STATE OF NEW YORK FOR THE PERIOD 01/01/2009 TO 12/31/2011.

FRANK MUNOZ
ASSOCIATE COMMISSIONER
OFFICE OF THE PROFESSIONS

CERTIFICATE NUMBER
0006121

RICHARD P. MILLS
PRESIDENT OF THE UNIVERSITY
AND COMMISSIONER OF EDUCATION

10/12/07

Taxpayer Identification# **221-754-524/000**

Dear Business Representative:

Congratulations! You are now registered with the New Jersey Division of Revenue.

Use the Taxpayer Identification Number listed above on all correspondence with the Divisions of Revenue and Taxation, as well as with the Department of Labor (if the business is subject to unemployment withholdings). Your tax returns and payments will be filed under this number, and you will be able to access information about your account by referencing it.

Additionally, please note that State law requires all contractors and subcontractors with Public agencies to provide proof of their registration with the Division of Revenue. The law also amended Section 92 of the Casino Control Act, which deals with the casino service industry.

We have attached a Proof of Registration Certificate for your use. To comply with the law, if you are currently under contract or entering into a contract with a State agency, you must provide a copy of the certificate to the contracting agency.

If you have any questions or require more information, feel free to call our Registration Hotline at (609)292-1730.

I wish you continued success in your business endeavors.

Sincerely,

James J. Fruscione

James J. Fruscione
Director
New Jersey Division of Revenue

STATE OF NEW JERSEY

BUSINESS REGISTRATION CERTIFICATE

DEPARTMENT OF TREASURY/
DIVISION OF REVENUE
PO BOX 252
TRENTON, N J 08646-0252

TAXPAYER NAME:

THE LOUIS BERGER GROUP, INC.

TRADE NAME:

ADDRESS:

412 MOUNT KEMBLE AVE
MORRISTOWN NJ 07960

SEQUENCE NUMBER:

0098251

EFFECTIVE DATE:

05/08/63

ISSUANCE DATE:

10/12/07

James J. Fruscione

Acting Director
New Jersey Division of Revenue

FORM-BRC(08-01)

This Certificate is NOT assignable or transferable. It must be conspicuously displayed at above address.

State of New Jersey

Division of Consumer Affairs

State Board of Professional Engineers and Land Surveyors

THIS CERTIFIES THAT

THE LOUIS BERGER GROUP, INC.
412 MOUNT KEMBLE AVE.
P.O. BOX 1946
Morristown NJ 07960

Has met the requirements of the State Board of Professional Engineers and Land Surveyors and is hereby issued a

CERTIFICATE OF AUTHORIZATION

to offer the following services

Engineering	***09/01/2008***	***08/31/2010***

Person in Responsible Charge DEMETRIOS J STAMATIS

For the names of other Responsible Charge Licensees, go to: http://www.njconsumeraffairs.com/pels/certrpt.pdf

Date: November 18, 2008
Certificate No. 24GA27933700
Expiration: 08/31/2010

Arthur Russo

Executive Director

STATEMENT OF THE PRESIDENT REGARDING EQUAL EMPLOYMENT OPPORTUNITY, SEXUAL HARASSMENT AND AFFIRMATIVE ACTION

The Louis Berger Group, Inc. is an Equal Opportunity Employer. It has been and continues to be our policy to provide equal employment opportunity and not to discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, marital status, sexual orientation, disability, creed, or citizenship status. The Louis Berger Group, Inc. has taken and will continue to take affirmative action to ensure that applicants are recruited and employed and that employees are treated during employment without regard to their race, color, military background, religion, sex, national origin, age, marital status, sexual orientation, disability, creed, or citizenship status.

The Louis Berger Group, Inc. adheres to the Americans with Disabilities Act, the Fair Labor Standards Act, the Family and Medical Leave Act, the Age Discrimination in Employment Act, and all other laws, both state and federal, that govern employment practices. The Louis Berger Group, Inc. is proud to be an equal opportunity employer.

Equal opportunity and equal consideration will be given to all applicants and employees in personnel actions that include among others: recruitment and employment; promotion, demotion and transfer; lay-off, termination and recall; rates of pay, benefits, or other compensation.

It is our Company policy that any form of harassment, including sexual harassment, is prohibited. The Company's policies and procedures regarding complaints of sexual harassment will be strictly followed and enforced.

It remains the intent of the Company to provide attractive employment opportunities for members of minority groups and women and to employ representative numbers at all job levels through aggressive recruitment and upgrading actions. It is also the policy to coordinate, throughout the Company, affirmative action directed at seeking minority personnel, female and handicapped personnel, veterans of the Vietnam era and disabled veterans for employment and to provide encouragement and direction to our staff members to advance within the limits of each individual's capabilities.

Nicholas J. Masucci
President

REAFFIRMATION OF EQUAL OPPORTUNITY POLICY WHICH INCLUDES HANDICAPPED, VETERANS OF VIETNAM ERA, DISABLED VETERANS

EQUAL EMPLOYMENT OPPORTUNITY POLICY

It has been and remains the policy of The Louis Berger Group, Inc. to provide equal employment opportunity and not to discriminate against any employee or applicant for employment on account of race, color, religion, sex, national origin, age, marital status, sexual orientation or physical disability. The Company has taken and will continue to take affirmative action to ensure that applicants are recruited and employed and that employees are treated during employment without regard to their race, color, religion, sex, national origin, age, marital status, sexual orientation, veteran status or physical disability.

Equal opportunity and equal consideration will be given to all applicants and employees in personnel actions which include among others: recruitment and employment; promotion, demotion, and transfer: lay-off, termination and recall; rates of pay, benefits, or other compensation.

It remains the intention of the Company to provide full employment opportunities for members of minority groups and women and to employ representative numbers at all job levels through aggressive recruitment and upgrading actions. It is also the policy to coordinate, throughout the Company, affirmative action directed at seeking minority personnel, female personnel and handicapped, veterans of Vietnam era and disabled veterans personnel for employment and to provide encouragement and direction to our staff members to advance within the limits of each individual's capabilities.

STATEMENT OF POLICY

To further its goal of equal employment opportunity for all employees and prospective employees without regard to race, color, religion, sex, age, national origin, disability, creed, citizenship status, sexual orientation, marital status, or any other basis prohibited by applicable law, the Corporation states as its policy the following:

It will be the policy of The Louis Berger Group, Inc., in accordance with all applicable laws, to recruit, hire, train, and promote persons in all job titles without regard to race, color, religion, sex, age, national origin, disability, creed, citizenship status, sexual orientation, marital status, or any other basis prohibited by applicable law.

All employment decisions shall be consistent with the principle of equal employment opportunity, and only valid qualifications will be required.

All personnel actions, such as compensation, benefits, transfers, social and recreational programs, etc. will be administered without regard to race, color, religion, sex, age, national origin, disability, creed, citizenship status, sexual orientation, marital status, or any other basis prohibited by applicable law.

To assure compliance with the plan, Terry Williams, Affirmative Action Officer, has been designated to administer and monitor the plan and make reports to Senior Management. The Plan is available for inspection in accordance with applicable regulations.

Certification 3135

CERTIFICATE OF EMPLOYEE INFORMATION REPORT

RENEWAL

This is to certify that the contractor listed below has submitted an Employee Information Report pursuant to N.J.A.C. 17:27-1.1 et seq. and the State Treasurer has approved said report. This approval will remain in effect for the period of 15-OCT-2007 to 15-OCT-2010

THE LOUIS BERGER GROUP INC.
412 MOUNT KEMBLE AVENUE
MORRISTOWN NJ 07960

Acting State Treasurer

The Louis Berger Group, Inc. agrees to the terms and conditions of non-discrimination as set forth within.

a) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or martial status. The contractor will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or martial status. The contractor shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on this contract. For these purposes, affirmative action shall apply in the areas of recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.

b) The contractor shall state in all solicitations or advertisements for employees that, in the performance of this contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

c) At the request of the Authority, the contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the contractor's obligations herein.

d) After an award of this contract, the contractor shall submit to the Authority a workforce utilization report, in a form and manner required by the Authority, of the work force actually utilized on this contract broken down by specified ethnic background, gender, and Federal Occupational Categories or other appropriate categories specified by the Authority.

e) Prior to the award of this contract, the contractor shall submit an Equal Employment Opportunity (EEO) Policy Statement and an EEO-1 form, to the Authority within the time frame established by the Authority. The contractor's EEO Policy Statement, shall contain, but not necessarily be limited to, and the contractor, as a precondition to entering into this contract, shall, during the performance of the contract, agree to the provisions set forth in paragraphs (a)- (c) above. The EEO-1 Form shall reflect-contractor information on the ethnic background, gender, and Federal Occupational Categories of the employees to be utilized on this contract.

f) Within sixty (60) days of the execution of this Contract, the Contractor shall submit a staffing plan, in a form and manner required by the Authority, which shall contain information on employees projected to work on activities related to the contract. This information must be broken down by specified ethnic background, gender and related job titles.

g) For construction contracts, after the award of the contract, the contractor shall submit on a monthly basis, in a form and manner required by the Authority, throughout the life of the contract, a workforce utilization report which details employee's hours worked on activities related to this contract. This information must be broken down by specified ethnic background, gender and related job titles.

h) Except for construction contracts, after the award of the contract, the contractor shall submit on a semi-annual basis, in a form and manner required by the Authority, throughout the life of the contract, a workforce utilization report which details the number of employees that worked on activities related to this contract. This information must be broken down by specified ethnic background, gender and related job titles. In instances where a contractor's workforce cannot be broken out, the contractor must affirm such and submit, an EEO-1 Form detailing its current workforce.

i) The provisions of this Appendix shall not apply to the extent that the Contractor or a subcontractor has obtained a waiver from the Authority based on duplication or conflict with federal laws.

j) The contractor agrees to include the language of the provisions of paragraphs (a)-(i) above in every subcontract in such manner that the requirements of the provisions will be binding upon each subcontractor and each party to this contract as to work in connection with this contract, including the requirement that subcontractors and parties to this contract shall undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and, when requested, provide to the contractor information on the ethnic background, gender, and Federal Occupational Categories of the employees to be utilized on this contract.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
Benisch & Company, LLC 345 Eisenhower Parkway Livingston NJ 07039-1722 (973) 992-6300	**INSURERS AFFORDING COVERAGE**	**NAIC #**
INSURED LOUI7500 The Louis Berger Group, Inc. Post Office Box 1946 412 Mount Kemble Avenue Morristqwn NJ 07962-1946	INSURER A: Federal Ins Co	20281
	INSURER B: Great Northern Ins Co	20303
	INSURER C:	
	INSURER D:	
	INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
A		GENERAL LIABILITY √ COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [√] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: √ POLICY [ ] PRO-JECT [ ] LOC	3530-92-23	12/1/2009	12/1/2010	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 1,000,000
A		AUTOMOBILE LIABILITY √ ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS √ Business Automobile	7318-88-81	12/1/2009	12/1/2010	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
		GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
		EXCESS / UMBRELLA LIABILITY OCCUR CLAIMS MADE DEDUCTIBLE RETENTION $				EACH OCCURRENCE AGGREGATE	$ $
B		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under SPECIAL PROVISIONS below	7162-29-72	12/1/2009	12/1/2010	√ WC STATU-TORY LIMITS [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

PROJECT DESCRIPTION:
**** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE ****

**** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE ****

CERTIFICATE HOLDER

*** SAMPLE ***
*** SAMPLE ***
*** SAMPLE ***
*** SAMPLE ***

*** SAMPLE *** XXXXX

CANCELLATION Ten Days For Non-Payment of Premium

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Sample

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The ACORD name and logo are registered marks of ACORD

IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

This Certificate of Insurance does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
Benisch & Company, LLC 345 Eisenhower Parkway Livingston NJ 07039-1722 (973) 992-6300	INSURERS AFFORDING COVERAGE	NAIC #
INSURED LOUI7500 The Louis Berger Group, Inc. Post Office Box 1946 412 Mount Kemble Avenue Morristown NJ 07962-1946	INSURER A: Continental Casualty Co	20443
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
		GENERAL LIABILITY				EACH OCCURRENCE	$
		☐ COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea occurrence)	$
		☐ CLAIMS MADE ☐ OCCUR				MED EXP (Any one person)	$
						PERSONAL & ADV INJURY	$
		GEN'L AGGREGATE LIMIT APPLIES PER:				GENERAL AGGREGATE	$
		☐ POLICY ☐ PRO-JECT ☐ LOC				PRODUCTS - COMP/OP AGG	$
		AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT (Ea accident)	$
		☐ ANY AUTO				BODILY INJURY (Per person)	$
		☐ ALL OWNED AUTOS				BODILY INJURY (Per accident)	$
		☐ SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident)	$
		☐ HIRED AUTOS					
		☐ NON-OWNED AUTOS					
		GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
		☐ ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	$
						AGG	$
		EXCESS / UMBRELLA LIABILITY				EACH OCCURRENCE	$
		☐ OCCUR ☐ CLAIMS MADE				AGGREGATE	$
							$
		☐ DEDUCTIBLE					$
		☐ RETENTION $					$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				☐ WC STATU-TORY LIMITS ☐ OTH-ER	
		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N ☐				E.L. EACH ACCIDENT	$
		(Mandatory in NH) If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE	$
						E.L. DISEASE - POLICY LIMIT	$
A		OTHER Professional Liability Architects & Engineers Including Environmental	PLH 00-608-69-36	3/1/2009	3/1/2010	Per Claim	15,000,000
						Annual Aggregate	15,000,000
						Ded Per Claim	50,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

**** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE ****
**** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE **** SAMPLE ****

CERTIFICATE HOLDER

*** SAMPLE ***
*** SAMPLE ***
*** SAMPLE ***
*** SAMPLE ***

*** SAMPLE *** XXXXX

CANCELLATION Ten Days For Non-Payment of Premium

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Sample

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IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

This Certificate of Insurance does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

ACORD™ CERTIFICATE OF PROPERTY INSURANCE

DATE (MM/DD/YY)

PRODUCER
Benisch & Company, Inc.
345 Eisenhower Parkway

Livingston NJ 07039-1722
(973) 992-6300

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A: Federal Ins Co

COMPANY B:

COMPANY C:

COMPANY D:

INSURED LOUI7500
The Louis Berger Group, Inc.

Post Office Box 1946
412 Mount Kemble Avenue
Morristqwn NJ 07962-1946

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	COVERED PROPERTY	LIMITS
A	[√] PROPERTY CAUSES OF LOSS [ ] BASIC [ ] BROAD [√] SPECIAL [ ] EARTHQUAKE [ ] FLOOD	3530-92-23	12/1/2009	12/1/2010	[ ] BUILDING [ ] PERSONAL PROPERTY [ ] BUSINESS INCOME [ ] EXTRA EXPENSE [ ] BLANKET BUILDING [ ] BLANKET PERS PROP [ ] BLANKET BLDG & PP [√] Valuable Papers	$ $ $ $ $ $ $ $ 6,175,000
	[ ] INLAND MARINE TYPE OF POLICY CAUSES OF LOSS [ ] NAMED PERILS [ ] OTHER					$ $ $ $ $ $
	[ ] CRIME TYPE OF POLICY					$ $ $
	[ ] BOILER & MACHINERY					$
	[ ] OTHER					

LOCATION OF PREMISES/DESCRIPTION OF PROPERTY

SAMPLE

SAMPLE XX XXXXX

**** SAMPLE ***
**** SAMPLE ****
**** SAMPLE ****
**** SAMPLE ****
**** SAMPLE ****

SPECIAL CONDITIONS/OTHER COVERAGES

Valuable Papers Coverage is provided on a Blanket Basis covering all office locations of the Insured. Coverage is "All Risk", subject to policy terms and conditions.

CERTIFICATE HOLDER

*** SAMPLE ***
*** SAMPLE ***
*** SAMPLE ***
*** SAMPLE ***
*** SAMPLE *** XX XXXXX

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL _30_ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

© ACORD CORPORATION 1995

Urban Engineers

THE UNIVERSITY OF THE STATE OF NEW YORK
EDUCATION DEPARTMENT

THIS IS TO CERTIFY THAT HAVING MET THE REQUIREMENTS OF SECTION 7210 OF THE EDUCATION LAW AND IN ACCORDANCE THEREWITH THIS CERTIFICATE OF AUTHORIZATION IS GRANTED WHICH ENTITLES

URBAN ENGINEERS OF NEW YORK PC
403 MAIN STREET
SUITE 530
BUFFALO, NY 14203-0000

TO PROVIDE PROFESSIONAL ENGINEERING SERVICES IN THE STATE OF NEW YORK FOR THE PERIOD 01/01/2009 TO 12/31/2011.

FRANK MUNOZ
ASSOCIATE COMMISSIONER
OFFICE OF THE PROFESSIONS

CERTIFICATE NUMBER
0006238

RICHARD P. MILLS
PRESIDENT OF THE UNIVERSITY
AND COMMISSIONER OF EDUCATION

THE UNIVERSITY OF THE STATE OF NEW YORK
EDUCATION DEPARTMENT

THIS IS TO CERTIFY THAT HAVING MET THE REQUIREMENTS OF SECTION 7210 OF THE EDUCATION LAW AND IN ACCORDANCE THEREWITH THIS CERTIFICATE OF AUTHORIZATION IS GRANTED WHICH ENTITLES

HNTB NEW YORK ENGINEERING AND ARCHITECTURE PC
PO BOX 412197
ATTN: LADONNA GOREN
KANSAS CITY, MO 64141-2197

TO PROVIDE PROFESSIONAL ENGINEERING SERVICES IN THE STATE OF NEW YORK FOR THE PERIOD 01/01/2009 TO 12/31/2011.

FRANK MUNOZ
ASSOCIATE COMMISSIONER
OFFICE OF THE PROFESSIONS

DAVID M STEINER
PRESIDENT OF THE UNIVERSITY
AND COMMISSIONER OF EDUCATION

CERTIFICATE NUMBER
0006333 DUPLICATE

Stellar Services

New York State Department of Taxation and Finance - Sales Tax

Certificate of Authority

Identification Number

11 3189413

(Use this number on all returns and correspondence)

4 U SERVICES, INC.
156 5TH AVE STE 1134
NEW YORK NY 10010

VALIDATED
REPLACEMENT
PROCESSING DIV
SALES TAX
11-02-01
DEPT. OF TAX
AND FINANCE

VOID

is authorized to collect sales and use taxes under Articles 28 and 29 of the New York State Tax Law.

Not Transferable

This certificate must be prominently displayed in your place of business listed above.
Fraudulent or other improper use of this certificate may cause it to be revoked.
This certificate may not be photocopied or reproduced.

DTF-17 A (8/97)

Garg Consulting Services

09/13/01

GARG CONSULTING SERVICES INC
401 RT 70 EAST SUITE 211
CHERRY HILL NJ 08034

Taxpayer Identification# **223-037-075/000**

Dear Business Representative:

Recently enacted State law (Public Law 2001, c.134) requires all contractors and subcontractors with State, county and municipal agencies to provide proof of their registration with the Department of the Treasury, Division of Revenue. The law became effective September 1, 2001.

Our records indicate that you are currently registered with the Division of Revenue, and accordingly, we have attached a Proof of Registration Certificate for your use. If you are currently under contract or entering into a contract with a State, county or local agency, you must provide a copy of the certificate to the contracting agency.

Please note that the law sets forth penalties for non-compliance with the provisions above. See N.J.S.A. 54:52-20.

Finally, please note that the new law amended Section 92 of the Casino Control Act, which deals with the casino service industry.

Should you have any questions or require more information about the attached certificate, or are involved with the casino service industry, call (609) 292-1730.

Thank you in advance for your consideration and cooperation.

Sincerely,

Patricia A. Chiacchio
Director, Division of Revenue

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE
FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS

DEPARTMENT OF TREASURY/
DIVISION OF REVENUE
PO BOX 252
TRENTON, N J 08646-0252

TAXPAYER NAME:
GARG CONSULTING SERVICES INC

TRADE NAME:

TAXPAYER IDENTIFICATION#
223-037-075/000

CONTRACTOR CERTIFICATION#
0078435

ADDRESS
401 RT 70 EAST SUITE 211
CHERRY HILL NJ 08034

ISSUANCE DATE:
09/13/01

EFFECTIVE DATE:
03/18/90

Director, Division of Revenue

FORM-BRC(08-01)

This Certificate is NOT assignable or transferable. It must be conspicuously displayed at above address.

Envision Consulting Limited

10/16/06

Taxpayer Identification# **223-344-177/000**

Dear Business Representative:

Congratulations! You are now registered with the New Jersey Division of Revenue.

Use the Taxpayer Identification Number listed above on all correspondence with the Divisions of Revenue and Taxation, as well as with the Department of Labor (if the business is subject to unemployment withholdings). Your tax returns and payments will be filed under this number, and you will be able to access information about your account by referencing it.

Additionally, please note that State law requires all contractors and subcontractors with Public agencies to provide proof of their registration with the Division of Revenue. The law also amended Section 92 of the Casino Control Act, which deals with the casino service industry.

We have attached a Proof of Registration Certificate for your use. To comply with the law, if you are currently under contract or entering into a contract with a State agency, you must provide a copy of the certificate to the contracting agency.

If you have any questions or require more information, feel free to call our Registration Hotline at (609)292-1730.

I wish you continued success in your business endeavors.

Sincerely,

James J. Fruscione

James J. Fruscione
Acting Director
New Jersey Division of Revenue

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE

DEPARTMENT OF TREASURY/
DIVISION OF REVENUE
PO BOX 252
TRENTON, N J 08646-0252

TAXPAYER NAME:
ENVISION CONSULTANTS, LTD.

TRADE NAME:

ADDRESS:
8 SOUTH BRANCH COURT
MULLICA HILL NJ 08062

SEQUENCE NUMBER:
0083373

EFFECTIVE DATE:
12/05/94

ISSUANCE DATE:
10/16/06

James J. Fruscione
Acting Director
New Jersey Division of Revenue

FORM BRC (08-01) THIS CERTIFICATE IS NOT TRANSFERABLE. IT MUST BE CONSPICUOUSLY DISPLAYED AT

Section A: Agreement on Terms and Conditions

ATTACHMENT B
PERFORMANCE OF EXPERT PROFESSIONAL PLANNING, PROJECT MANAGEMENT AND RELATED SERVICES AS REQUESTED ON A CALL-IN BASIS DURING 220100 – 2014 FOR THE PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) (RFP#19980)

The Port Authority of New York and New Jersey's (Port Authority) receipt or discussion of any information (including information contained in any proposal, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) is not to impose any obligation whatsoever on the Port Authority or to entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with, or after this letter, either orally or in writing, is not given in confidence and may be used or disclosed to others for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement that is inconsistent with this Agreement on Terms of Discussion, whether made as part of or in connection with any information received from us, or made at any other time in any fashion, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to use any matter that is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Port Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Resolution adopted by its Committee on Operations on August 13, 1992, not to disclose to any competitor of the undersigned, information submitted that deals with pricing or other financial matters, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a Proposal.

URS Corporation – New York

NAME OF COMPANY

SIGNATURE OF OFFICER

John F. Spencer
Senior Vice President / Regional Manager

TITLE

January 14, 2010

DATE

URS

January 14, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, New York 10010

ATT: Bid Custodian RFP #19980

Re: Request for Proposal for Performance of Expert Professional Planning, Project Management and Related Services as Requested on a "Call-In" Basis during 2010 – 2014 for the Port Authority Trans-Hudson Corporation (PATH)

Dear Mr. Volonakis:

URS understands the importance of the PATH Capital Program to ensure service reliability, safety and adequate capacity to meet its ever increasing ridership and future demands. We have assembled a team of seasoned professionals, with considerable support resources, who are ready and eager to support the Port Authority staff and all facets of the Capital Program, as you may require.

Why the URS Team?

We have a three-decade long history of working effectively with the Port Authority.

We have been working collaboratively with the Port Authority for decades on virtually all of its facilities, on billions of dollars of renovations and expansions for every Line Department. URS has several active call-in contracts for Program and Construction Management and nine separate Engineering call-in contracts, where we continuously employ approximately 90 staff. Today we interface regularly with the Port Authority and PATH in our role on the WTC Transportation Hub and in several security-related tasks for the PATH system at Journal Square, Control Center, and in the tunnels.

We have selected key staff for the positions requested.

John Worster, who will be our Senior Planning Manager, will interface regularly with Mr. Guzman and will supervise and direct URS staff. He will work closely with other Port Authority staff and assist with the PATH force account work, planning, and scheduling. John's recent experience with MTA, and significant prior experience with Amtrak, is exactly the experience you are seeking for this position.

We have selected two highly qualified individuals to serve as Field Coordinators--**Alan Yager**, for Way and Structures, and **Metin Bessim** for Power, Signals and Communication. Mr. Yager brings his experience as Deputy Construction Manager, Force Account-Amtrak

URS Corporation – New York
One Penn Plaza, Suite 610
New York, NY 10119-3904
Tel: 212.736.4444
Fax: 212.629.4249
www.urscorp.com

on the East Side Access project, which included all construction activities on the Harold Interlocking in the Sunnyside Yard. He was also Senior Inspector for the installation of all aspects of 13 standard and special switches on the Penn Station JO Interlocking, coordinating with Amtrak and NJ Transit. Mr. Bessin, an electrical engineer, has extensive experience with the PATH system, having supervised and coordinated installations for event detection, intrusion detection, the E & F Tunnel flood gates, upgrade of VHF radio channels, and emergency diesel generator replacements.

Our **Plan Coordinator** will be **Anthony Fleres, PE**. Mr. Fleres has spent his entire 30 year career in railroads, more than 13 of which were with Metro-North where he was Senior Structural Engineer/Project Manager, responsible for the execution of the bridge portion of Metro-North's capital program. He is currently working on the East Side Access Harold Interlocking realignment, to accommodate new tunnel connections to Manhattan. He was also Deputy Project Manager for Final Design and Construction Assistance for the NJ Transit Newark Light Rail Broad Street Extension.

Our organization chart also shows our organizational depth, with 290 additional staff to support the PATH Capital Program in the areas of Construction Management, Cost Estimating, Document Control, Foundation/Geotech, Project Management, Safety, Scheduling and Structural. Engineering.

URS has current experience with your Primary Task responsibilities.

For the past two years, URS has been working closely with the Port Authority and PATH staff to plan, coordinate, and schedule PATH track outages and access. This work, which included the scheduling of work trains, required the coordination, evaluation and finalization of schedules for work involving PATH facilities. In particular, URS initially had several staff who needed to enter and inspect several PATH systems and tunnels to verify existing conditions. The track outages required for this work were planned and scheduled with the Port Authority and PATH staff over a period of several months.

Regarding logistical support, URS led and managed a critical effort to devise a construction prototype plan and trial in preparation for doing work in the PATH tunnels. Working closely with the Port Authority and PATH, URS established a plan for construction trials in the tunnels, planned and scheduled the outages, and worked closely with the contractor to develop an optimal plan and schedule for maximizing productivity in the tunnels during very limited outages (4 hours).

We significantly exceed your basic proposer requirements.

In the New York metro area alone, URS is working on three projects that satisfy your minimum firm requirements. First, the $8 billion East Side Access project, where URS, as Program Manager, is planning, coordinating and managing all facets of the Program, which currently includes more than 30 construction, equipment, and materials contracts/packages. We are helping the Authority to manage the WTC Site Redevelopment and are very involved in the management of all of the work associated with the multi-billion dollar Port Authority WTC Transportation Hub and related facilities, which is a major hub for the PATH system. URS is also currently managing Amtrak's entire $1.3 billion capital program created

exclusively with Federal stimulus funding. This program involves coordinating and managing 459 projects in 46 states, all of which must be completed by early 2011.

Over the past 9 nears, URS designed, built, and now operates/maintains the NJ Transit Hudson Bergen Light Rail System. As a result, we are very familiar with the infrastructure and stakeholders in Jersey City, Hoboken, and Journal Square, all areas jointly served by PATH and the HBLR system.

We are absolutely committed to the success of the PATH Capital Program.

We know how important the success of this program is to the Port Authority, and it is equally important to us. We value very highly our long-term working relationship with the Port Authority and will do whatever is needed to complete this program on time, within your budget, and to your complete satisfaction

URS is proposing as a single entity for this assignment.

We look forward to continuing to work closely with the PATH and Port Authority staff to make this Capital Program a resounding success.

Very truly yours,
URS Corporation – New York

John F. Spencer, PE
Senior Vice President / Regional Manager

Section C: COST

Prime Consultant: URS-New York		
Name	**Title**	**Hourly Rate (2010)**
John F. Spencer, PE	Principal-in-Charge	N/A
John Wooster	Senior Planning Manager	80.88
Alan Yager	Field Coordinator – Way & Structures	40.80
Anthony Fleres, PE	Plan Coordinator	67.40
Steven Manne	Master Scheduler	80.00
Craig Gyory	Jr. Cost Estimator	38.36
	URS-New York Multiplier	**2.10**
Subconsultants		
Name	**Title**	**Hourly Rate (2010)**
Maitra Associates, PC		
Metin Bessim	Field Coordinator – Power, Signals, Comm. Division	45.15
	Maitra Associates Multiplier	**2.10**
Integrated Strategic Resourceas, LLC		
Joseph Bou-chedid	Cost Engineer	83.40
	Integrated Strategic Resources Multiplier	**2.10**

Explanation of URS Multiplier

The proposed multiplier to be used times the actual salaries paid by URS [as referenced in Subparagraph 7A of the contract] is 2.10. The components of the multiplier include direct technical labor, burden and fringes, and overhead and are broken out on our most recent audited Overhead Statement.

Billing Rates for Partners and Principals

The only principal who will work on this project is Jack Spencer, Principal-in-Charge. His services will be provided at no cost to the Port Authority.

Section D: FIRM QUALIFICATIONS AND EXPERIENCE

Project Information

East Side Access Program
New York City,
$8.1 billion, ongoing

Services: Program Management

Client: MTA/LIRR
Ms. Chris Sklavounakis
[redacted]

The ESA Project, connecting the Long Island Rail Road to Grand Central Terminal, involves more than 25,000 linear feet of underground construction in Manhattan, including 1,200' long caverns beneath GCT to house LIRR's new terminal, completing 8,600 linear feet of the existing 63rd Street-Queens Boulevard Connector Tunnel's lower level, and designing more than 10,000 linear feet of new soft ground tunnels in Queens; a new commuter rail station at Sunnyside Yard in Long Island City; an eight track/four-island platform in a stacked 4-up and 4-down configuration for LIRR trans; new and/or upgraded LIRR passenger access points at GCT; reconfiguration of NYCT's Lexington Avenue subway station to accommodate increased passenger traffic; a new railcar storage yard in Queens; and traction power, signals, and communications systems.

As the Program Manager, the URS team also recommends approaches to all design and construction requirements, advises on utilization of the most cost-effective design, conducts value engineering and constructability reviews, prepares consultant scopes of work, manages construction and force account activities, and maintains the project's budget and schedule. URS is responsible for developing an ESA Project Management Plan, Master Project Schedule, an Integrated Project Management Control System, and a Quality Assurance/Quality Control Plan.

World Trade Center Transportation Hub and Site Redevelopment
New York City
$21 billion, ongoing

Services: Program Management and Coordination.

Client: The Port Authority of New York and New Jersey
William Foley
Engineering and Construction
(718).244-4757

The Port Authority is rebuilding the World Trade Center (WTC) site and surrounding streetscape in lower Manhattan which includes construction of the WTC Transportation Hub/New PATH Terminal – a $3 Billion Transportation Hub, equivalent in size to Grand Central Station, comprising a new PATH subway station, with additional underground concourse connections to 13 NYC MTA subway lines, the Hudson River ferry, and the World Financial Center. URS is planning, coordinating and managing all logistics, with an anticipated peak activity level of 3000 tradespeople and 500 to 600 truck deliveries daily. Challenges are:

- Staging and sequencing of interconnected, interdependent construction elements above and below grade on a constricted site with little on-site staging or laydown areas
- Constructing below and above several active subway lines carrying hundreds of thousands of daily commuters that cannot be disrupted, requiring complex, intricate scheduling of all underpinning and structural work.
- Providing unprecedented security and screening for the workers and deliveries entering and exiting the site due to the sensitive nature of the work being undertaken.
- Coordination with several significant and concurrent infrastructure construction efforts adjacent to the site including the rebuilding of the west side access road adjacent to the site by NYSDOT

URS is employing the latest technology and sophisticated management methods to coordinate these logistics including:

- Developing and maintaining site logistics plans using 4-D Cad models. This allows us to coordinate work zones, crane placements and operations, laydown areas, shared access and delivery routes on a daily basis among numerous contractors on the congested site.
- Using resource-loaded CPM schedules to forecast manpower requirements by trade and shift, and forecast truck deliveries for all key materials and equipment
- Chairing daily and weekly site coordination meetings among contractors to compare weekly look ahead schedules and avoid potential conflicts and delays
- Creation of a site logistics operations center with full access to site security video cameras and scheduling software to manage the dynamic construction operations 24 hours per day.
- Using the 4-D models and the traffic simulations and animations to hold regular briefings with the community and other Lower Manhattan stakeholders to agree upon mitigation strategies to support the around-the-clock construction

Amtrak Program Management Oversight, Nationwide, $1.3 billion, ongoing.

Services: Extension of Staff

Client: National Railroad Passenger Corporation
Art Misiaszek
Senior Program Director, Stimulus
[redacted]

Amtrak plans to construct, renovate, repair and/or upgrade properties in 46 states, including work at stations, facilities, office locations, and along the right-of-way. URS is providing architectural, engineering, construction management and program management personnel at office locations throughout the United States to support the program.

Other Relevant Rail and Transportation Projects

Modifications to Hellgate Line Catenary and Related Facilities, New York City
$57 million construction cost; $10 million force account, Completion 2010.

Services: Construction Management.

Client: National Railroad Passenger Corporation John R. DeVito
Sr. Contracting Agent
[redacted]

URS was selected to manage and oversee the Contractor's installation of all railroad catenary, signal, communication and power improvements, including electrical apparatus, catenary work and supporting structural/civil work assuring that all work is performed in strict conformance with all applicable requirements of the contract. This work will include the removal of the hanging beam/carrying cable catenary arrangement along with the installation of several new catenary structures as well as their foundations. The work effort will result in a re-profile of the catenary system between mile post 5 and mile post 18.75 and will include the installation of the new Manor Interlocking and related support equipment.

In addition to these major tasks, additional work items will include the removal of bridle wires, the provision of a continuous traction power feed on each side of the railroad, the installation of a new 60Hz power house for distribution to railroad facilities and new lighting interlocking including new Remote Terminal Unit (RTU) houses with SCADA equipment, a new 500kVA snowmelter unit substation and 10kVA 12KV/120V signal power transformers. All of the outlined work as well as the re-sectionalizing of the catenary and power feeders, bonding, grounding and testing will be performed such that the final arrangement is capable of 110 mph train operation.

PANYNJ Professional Program Management Services, 2 contracts: 2002-2006 and 2006-2010
New York and New Jersey
$3.7 million

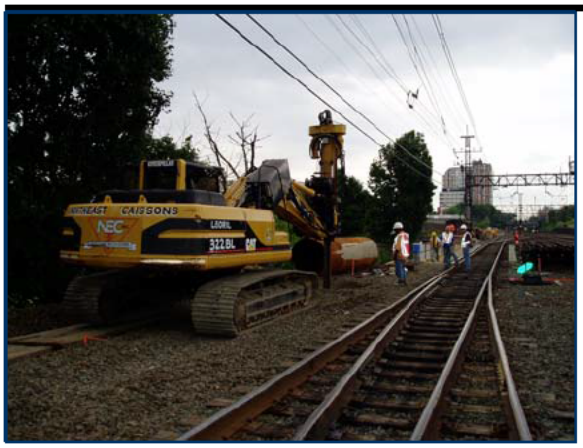
Client: The Port Authority of New York and New Jersey
Kevin Vesely
General Maintenance Superintendent, Heavy Construction Coordinator
(212) 502-2247

Responsibilities include organization and management of the project design team, preparation, coordination and implementation of the management plans, monitoring of and reporting on the scope, schedule and budget until completion of the work for numerous Aviation and Tunnels, Bridges and Terminals projects. Under the current contract, we are providing oversight and coordination at the World Trade Center site. Another ongoing assignment is project management and coordination for the Port Authority Bus Terminal during the construction of the NYCT 7-line, which runs directly through the center of the Terminal property.

Tunnel Hardening
$500 million, ongoing.

Client: The Port Authority of New York and New Jersey
Jose Febrillet
(201) 595-4747

URS has developed and is designing structural hardening solutions to protect critical multi-billion dollar underground/underwater tunnel structures. URS is responsible for structural analysis, and preliminary and final engineering. The work includes the relocation of electrical and mechanical systems, including the relocation of existing fiber optic cables to maintain system functionality throughout the project. *(This work was performed under a call-in Security Capital Programs contract.)*



MNR Shell at Grade – New Haven Line / Hellgate Line
Westchester County, NY
$99 million

Services: Construction Management

Client: MTA-Metro-North Railroad and Amtrak
David Melillo
Director of Construction
[redacted]

The objective of the project is to reconfigure three railroad interlocks where Metro North's New Haven Line meets Amtrak's Hell Gate Line. The reconfiguration was designed to improve service schedules by providing higher-speed crossovers, platform access to three mainline tracks instead of two, and better separation of Metro-North and Amtrak trains through the New Rochelle Station. To reconfigure these three interlocks, new track crossovers and switches need to be installed, requiring new catenary wire, catenary structures, M.O.D. switches, signal and switch controls, snowmelters, and track circuits to be installed. Because both lines are presently active, the project requires careful and complex construction staging. Furthermore, work must be coordinated between a general contractor and Metro North Force Account. The construction duration is estimated to be 52 months.

Included in this project was the installation of new Supervisory Control and Data Acquisition (SCADA) RTU houses at each of the three interlocks. This system is needed to remotely monitor and control the sectionalized traction power system and snowmelter system at Grand Central Terminal. This work involves proper routing of control cable to the new MOD's and snowmelter unit substations (SMUS), and then the proper testing and commissioning of the equipment.

Unique to this project is that both Metro-North and Amtrak have a role as the owner, and additional services are required for reporting both financial status and schedule updates of the general contractor's work and Force Account work

NJT Hudson Bergen Light Rail
New Jersey
$1.9 billion

Services: Design/Build/Operate/Maintain.

Client: NJ Transit
Ty Dickerson
General Manager
[redacted]

Phase 1 (MOS-1), which included 9.5 miles of double track, at grade and on elevated guideway, 16 passenger stations, 4 park-ride lots, a storage yard and maintenance shop, began revenue service ahead of schedule, just 42 months after NTP. With the completion of Phase 2 (MOS-2) the system now serves seven cities along the Hudson River waterfront. It includes 17 miles of electrified double track featuring overhead catenary traction power supply, 23 LRT passenger stations (including six with park-ride facilities), a 100,000 square foot maintenance shop, 75,000 square foot LRV storage facility and rail yard, and more than a dozen bridges.

One section of the rail line included the rehabilitation of an existing 4,100-foot long tunnel that passes through the Palisades 160 feet below grade. The tunnel was completely modernized and a second track was added. The running tunnel was widened by six feet to 34 feet. The station area was expanded to a maximum of 65 feet wide and 34 feet high. A 42-foot diameter shaft was created to connect the surface to the new station. State-of-the-art tunnel safety systems include fire detection, fire suppression, four tunnel ventilation fans, two platform ventilation fans, two shaft pressurization fans, and emergency lighting and communications. The new underground station is accessed by high-speed elevators from an intermodal facility at grade level.

NYCT Roosevelt Avenue/74th Street Complex Rehabilitation, Jamaica, Queens
$116 million, completed 2005

Services: Construction Management.

Client: MTA-New York City Transit
Mr. Talib Lokhandawala, Construction Administrator
[redacted]

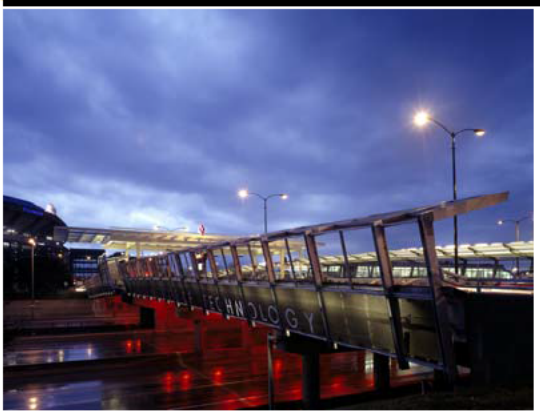
Work included: Construction of new 6,000 sf pavilion for this 6 level station serving 2 subway lines, 1 elevated line, and 6 bus lines; new platform surfaces; additional turnstiles, new lighting, new public address and CCTV; 4 new glass elevators; mechanical system upgrades, new electrical distribution rooms. All work was accomplished while maintaining regularly scheduled service.

LIRR On-Call CM & Associated Services - 4 contracts: 2000 - 2009
New York City, Nassau and Suffolk Counties,
$17.2 million

Client: MTA-Long Island Rail Road
Ed Hughey, Director, CPM
[redacted]

URS received 23 assignments under these contracts, including 9 station rehabilitation projects, a Force Account Review program for LIRR's Capital Program and development of a Force Account master schedule, program budget and master Project Management Plan to facilitate Force Account work. Also developed methodology for monitoring Force Account work. Contracts also included yard improvements, environmental remediation, and parking.

Other Rail and Transportation Projects



Chicago Transit Authority Capital Improvement Program, Chicago, IL
$2.2 billion, completed 2009.

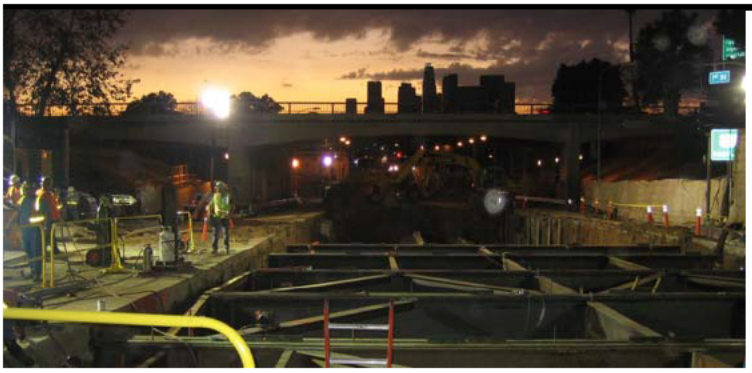
Services: Program Management & Project Controls

Client: Chicago Transit Authority
Mr. John Trotta,
VP-Purchasing/ Warehousing
Authority
([redacted]

URS provided program management consultant services on more than 65 individual projects of this major Capital Improvement Program (CIP) for the nation's second-largest public transportation system. Projects have included rail station reconstruction at no less than 33 stations, as well as the replacement of escalators and subways in several stations, improved station PA systems at 37 locations, elevator rehabilitation at 12 locations, and the upgrading of park-and-ride facilities at 10 locations. Train electrical signal and communications projects include replacement of the signal system and rail in the Congress/Dearborn Subway; replace and upgrade the signal system in the Loop and on the Orange Line; traction power system upgrades and improvements; replacement of Skokie power distribution; a substation renovation program; installation of a Traction Power Energy Management System; implementation of a "Workers Ahead" warning system; upgraded rail crossings; an improved SCADA Operational System; a new SCADA radio back-up system; and the upgrading of safety equipment in subways.

URS also oversaw major work on three line reconstruction projects: the CTA Ravenswood Line 8-car platform extension project, the rehabilitation of the CTA Blue Line Douglas Branch and the rehabilitation of the CTA Red Line. The combined value of these three projects is approximately $1.25 billion. Significant Train Track and Structures work was accomplished at several locations on several lines, including tie replacement, flange angle replacement, upgrading track, system-wide renewal of R. O. W., foot walk renewal at several locations, and the reconfiguration of the Harrison Curve.

The URS partnership with CTA has also received several awards, including: the Driehaus Public Innovator E-Governance Award for their quality control and web-based project management system, which consolidated and enhanced gains in workflow efficiency, and the 2002 Technology Advancement Award presented by the Illinois Road and Transportation Builders Association for promoting the use of technology within the transportation and construction industry.



Metro Gold Line Eastside Extension, Los Angeles County, CA
$898 million. Completed 2009.

Services: Design/ Build

Client: Los Angeles County Metropolitan Transportation Authority
Dennis Mori, Project Manager
[redacted]

URS (formerly the Washington Group) led a joint venture to design and build a 6-mile-long extension to the Metro Gold Line system in Los Angeles. The new line runs on concrete-embedded track from Union Station in downtown Los Angeles to Pomona Boulevard. With the construction of the extension, the communities of East Los Angeles and Little Tokyo are connected by rail to Long Beach, Hollywood, the San Fernando Valley, downtown Los Angeles, and Pasadena. Four miles of the dual-line extension was constructed at ground level or on bridges or other structures, and 1.8 miles in 21-foot-diameter twin tunnels excavated using two earth pressure balance machines.

The project includes two underground stations with outside platforms and mezzanines, escalators, and elevators and six aboveground stations with center platforms. Each station incorporates architectural themes. The work also involved installation of the overhead catenary system and signaling and communications systems, along with considerable excavation. Other elements of the project included:

- Relocating wet and dry utilities out of the rail corridor
- Demolishing existing buildings, roads, and facilities
- Excavating and shoring for the new facilities
- Reconstructing street improvements including AC paving, base, miscellaneous concrete, and stamped concrete
- Implementing extensive urban design and artwork improvements
- Maintaining traffic

MBTA Greenbush commuter Rail Line, Boston South Shore Region
$530 million. 2009

Services: Program Management

Client: Massachusetts Bay Transportation Authority
Paul Hadley, MBTA Project Manager
[redacted]

URS provided the MBTA's consultant Program Manager – Systems and support staff overseeing engineering, design, construction, systems testing, safety certification, and the implementation of revenue service for the new 18-mile commuter rail line,MBTA's first design/build Commuter Rail project. URS staff was responsible for oversight of railroad signals and train control, grade crossing warning devices, communications, power, track, and other railroad systems, as well as testing and inspection, and coordination with Amtrak, FRA, MA DPU, and other federal and state agencies. URS was initially retained directly by MBTA to review conceptual project capital costs, provide constructability analysis of certain construction options, and analyze and perform schedule assessments for the design/build process

Transbay Transit Center Program
San Francisco, CA.
$4.1 billion. Expected completion 2021

Services: Program Management, Project Controls, Environmental Mitigation Support, Design Concept Development Design Reviews

Client: Transbay Joint Powers Authority
Bob Beck, Transbay Transit Center Senior Program Manager
[redacted]

URS is providing program management and program controls, environmental and design support services for the 14-year Transbay Transit Center Program to replace the existing terminal and extend rail service into the downtown San Francisco. The new Transit Center will also be the northern terminus for the planned California High-Speed Rail system.

A temporary terminal was constructed, to accommodate bus service, while the new terminal is being constructed on the site of the existing terminal. As currently programmed, the new transit center will include five levels containing commuter and high-speed rail platforms; circulation and security screening for rail passengers and an intercity bus station; main entry hall, ticketing and local bus service; retail, commercial and community use; and suburban bus operations and paratransit operators. In addition, the transit center component of the program will include a new half-mile bus viaduct leading to the interstate highway and the San Francisco Bay Bridge as well as to an offsite bus storage facility. The center is being designed with a goal of exceeding LEED Silver standards.

In addition to the transit center itself, the program includes a tunnel through downtown San Francisco to bring existing commuter rail service into the new terminal. The rail component will be built to accommodate high-speed rail as well as commuter rail service from suburbs south of San Francisco. Underground walkways will connect the new transit center to the main arterial local and suburban subway lines, which are located one block north of the transit center.

URS' services include program management, project and design management, program and project controls, civil, architectural and MEP conceptual design services, contract management, document control, BIM (building information modeling), estimating, program coordination, risk management, project insurance consulting, value engineering, real estate acquisition coordination, architect/engineer selection, environmental mitigation, quality assurance/quality control, policies and procedures development, threat and vulnerability assessments, security program development and related as-needed services.

Peninsula Corridor Joint Powers Board Contracts, San Mateo, San Francisco and Santa Clara Counties, CA.
$1 billion. 2008.

Services: Project and Construction Management

Client: San Mateo County Transit District (SamTrans)
Mr. Ian McAvoy, Deputy Chief of Development
[redacted]

URS has provided a full suite of construction management services and program-wide project management and project controls staff and services for new and upgraded rail facilities. Total construction value is over $1 billion. Facilities have included bridge structures, tunnels, trackways, signaling, stations, terminals, and maintenance shops.

URS provided project and construction management services for design and construction of the new $150 million Centralized Equipment Maintenance and Operations Facility (CEMOF) located at Lenzen Yard site in San Jose.

URS is providing project management services for the $200 million San Bruno Grade Separation project. Work consists of reconstruction of 2 miles rail corridor, including four rail-over-street grade separations, MSE embankments, and a new station and transit center.

The $600 million, 20-mile Dumbarton Rail Corridor commuter rail extension includes rehabilitation of a 7,000-foot-long swing-span bridge over San Francisco Bay. The project is currently in the environmental clearance and preliminary engineering phase. As project manager, URS is working closely with the designer on constructability and VE strategies for rehabilitating the bridge structure as well as phasing options.

URS provided comprehensive construction management services on the $125.3 million Baby Bullet Caltrain Express commuter train service. The project involved improvements to 44 miles of track. All construction took place under "live traffic" conditions. The project provided sidings at several stations to allow express trains to pass local trains during commute hours. Work included installing new continuous welded rail, an improved central train control system, shotcrete applications to tunnels, and bridge improvements.

Measure B Rail Expansion Program
Santa Clara County, CA
$908 million. 2006.

Services: Program Management and Construction Management.

Client: Santa Clara Valley Transit Authority
Mark Robinson, Chief Design and Construction Officer
[redacted]

URS, as part of a joint venture (South Bay Transit Associates), was selected to provide program controls and construction management (PCCM) services for Santa Clara Valley Transportation Authority's Measure B Rail Expansion Program. In this capacity, we managed the design, construction and activation phases of four projects, including the $273 million Tasman East Light Rail project and $157 million Capitol Corridor Light Rail project (known as the Tasman East/Capitol Extension, now in operation), the $313 million Vasona Corridor Light Rail project (now in operation), and Caltrain improvements from Palo Alto to Gilroy. Since our selection, the fourth project, the Fremont/South Bay Commuter Rail Connection, was replaced by the BART extension to San Jose, which is now a separate project, part of the 2000 Measure A Program.

South Bay Transit Associate's program and construction management responsibilities included preparing project management plans, public information support, developing QA programs; real estate acquisition, utility, and permit coordination; cost and schedule control systems management, document control, community relations, reporting, estimating, value engineering, MIS support, contract management support for all systems installation, civil inspection, construction scheduling, document control, constructability reviews, change management, claims review and analysis, rail activation coordination, and closeout.

The Tasman East/Capital Extension completed one month ahead of schedule and $24 million under budget. The Vasona Corridor project completed $8 million under budget and opened three months ahead of schedule. The Caltrain Service Improvement projects ($54 million) completed $300,000 under budget.

Section E: STAFF'S QUALIFICATIONS AND EXPERIENCE

URS has selected a group of professionals whose experience is particularly relevant for this PATH Planning and Program Management assignment. All of them are highly experienced with New York metropolitan rail transportation agencies, some of them having held senior positions there; a number of them also have PATH specific experience. All are familiar with the challenges that the PATH Capital Program will offer—track access in particular—and experienced in the requirements of a complex capital program executed under tight constraints.

John Worster, our designated **Senior Planning Manager**, has over 32 years experience as a program/project manager and construction manager in the transportation industry, including 25 years with Amtrak, where he rose to Director of Facilities at New York Penn Station. During his tenure, he managed construction projects by Amtrak in-house forces and third party contractors and served as Project Manager/Project Engineer on an extensive range of project experience in track construction, railroad right-of-way improvements, station improvements, tunnel improvements and facility upgrades. He has extensive experience developing, planning and executing major construction projects on Amtrak's Mainline in the metropolitan New York City area. He is currently working on the MTA's IESS/C3 project, serving as Deputy Project Manager for planning, coordination, and construction management services.

John Worster and Alan Yager have worked successfully together on the MTA IESS/C3 project.

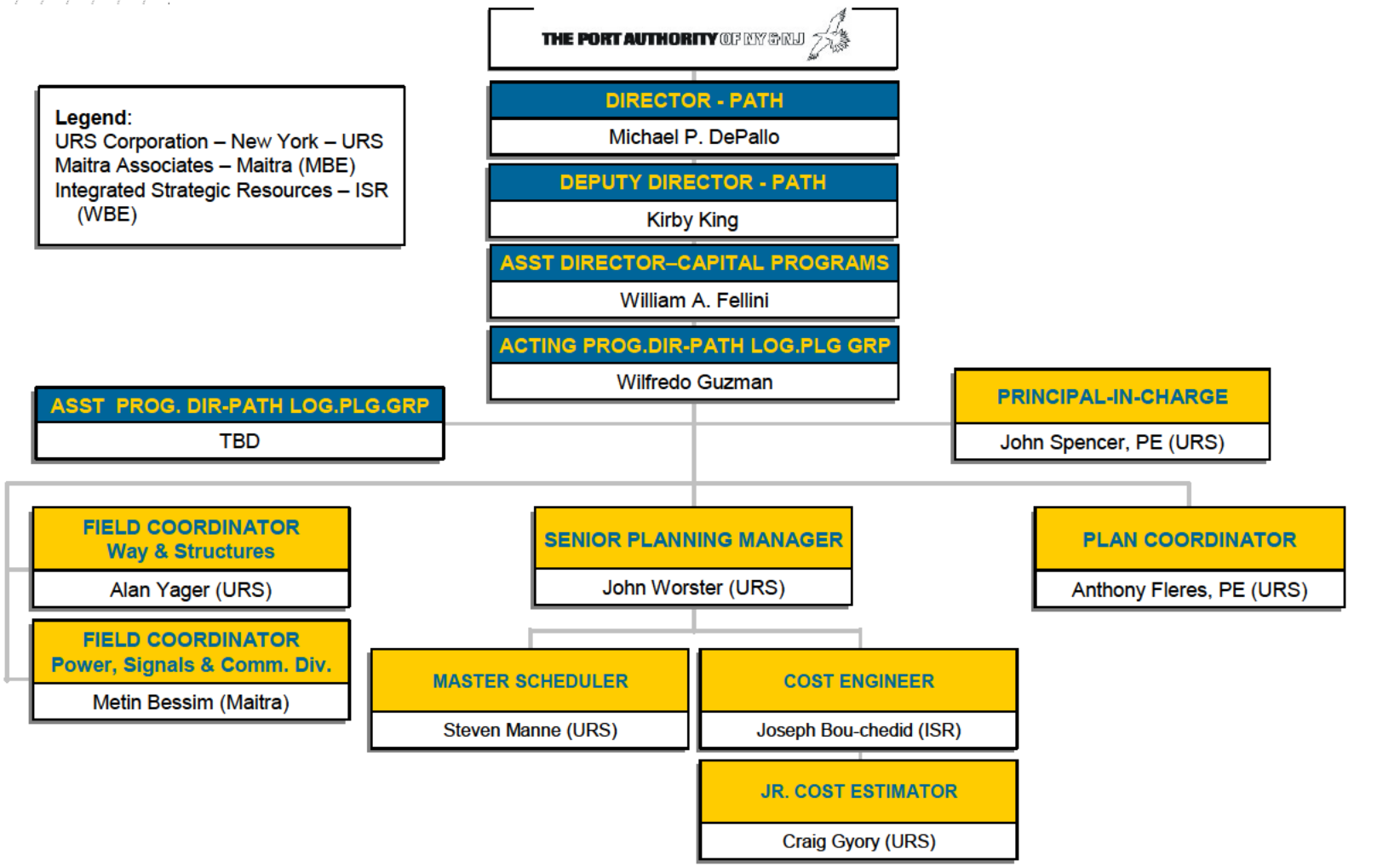
URS is proposing two Field Coordinators, aligned along PATH's internal structures. **Alan Yager** will serve as **Field Coordinator for Way & Structures** while **Metin Bessim** will be responsible for **Power, Signals & Communications**. Mr. Yager has over 30 years experience in rail engineering and inspection and has recently served as Field Coordinator for the MTA's IESS/C3 project, which included work in under river tunnels, working with rail traffic, coordinating work trains with Agency personnel and ensuring that project activity had minimum impact on client operations. He is presently serving as Deputy Construction Manager for Amtrak Force Account on the East Side Access project.

Mr. Bessim brings extensive PATH experience to this program, having served as Senior Construction Engineer for on 10 PATH projects, including WTC Portal Flood Gates at Tunnels E and F, Access Control systems, a temporary Event Detection System for Tunnels A, B, E, and F, an intrusion detection installation and other security related work. He also served as Senior Electrical Engineer/Inspector for the restoration of PATH service to Manhattan, including construction management of electrical systems, equipment and components. He also provided inspection services for six other PATH projects, including an emergency diesel generator replacement at the Washington Street substation.

Anthony Fleres, PE, is assigned as the Team's **Plan Coordinator** for this PATH assignment. Mr. Fleres has nearly 30 years of rail experience, 13 years of which were at Metro-North Railroad, where he rose to Senior Structural Engineer/Project Manager responsible for the execution of the bridge portion of Metro-North's capital program. He also served as Deputy Project Manager for Final Design and Construction Assistance on NJ Transit's Newark Elizabeth Rail Link, a one-mile long extension of the Newark City Subway. He is presently assigned to the East Side Access project, responsible for design for the reconstruction of the Amtrak/Long Island Rail Road interlocking in the Sunnyside yards, which requires realignment of tracks to accommodate new tunnel connections to Manhattan.

Resumes for these individuals and the remaining members of the team are provided on the following page.

Expert Professional Planning, Project Management and Related Services as requested on a "Call-In" Basis during 2010 - 2014 for PATH



TECHNICAL SUPPORT: RELEVANT URS PERSONNEL AVAILABLE IN NEW YORK METRO AREA TO SUPPORT PATH

Construction Managers: **103**	Cost/Engineer/ Estimators: **36**	Document Control Specialists: **16**	Foundation/ Geotech: **15**	Project Managers: **67**	Safety Engineers: **6**	Schedulers: **11**	Structural Engineers: **36**

John F. Spencer, PE

Principal-in-Charge

Highlights

- Experience managing multi-billion dollar programs
- 33 years experience with the Port Authority

Areas of Expertise

Program Management
Construction Management
Engineering

Years of Experience

38 Years

Education

MBA/Fairleigh Dickinson University
BCE/Manhattan College

Registration/Certification

Professional Engineer: NY, NJ

URS Corporation

Mr. Spencer has 38 years of engineering experience, which includes engineering design and construction programs in the New York/New Jersey Metro area. Prior to joining URS, he served as Deputy Chief Engineer at the Port Authority of New York & New Jersey (PANY&NJ) where he was involved in the JFK AirTrain and the JFK and Newark Liberty International Airport redevelopment programs. He also served as Chief Executive Officer for the New Jersey School Construction Corporation (NJSCC), where he was responsible for the management and implementation of capital design and construction programs valued at $10-15 billion. Mr. Spencer is familiar with the New York and New Jersey design and construction communities and is adept at forging the partnerships necessary to make a project successful.

As Senior Vice President and Regional Manager at URS, he is responsible for the Northeast operations, which includes a 1000-person Program Management/Construction Management and Design Division with a portfolio of projects valued at more than $15 billion, including the $7.2 billion MTA/LIRR East Side Access Project and the $3 billion PANYNJ WTC Transportation Hub Project.

World Trade Center Transportation Hub Project and Other World Trade Center Site Projects, New York, NY: Principal-in-Charge for the WTC Transportation Hub Project. URS, as part of a joint venture, is providing construction management services to the PANY&NJ for the World Trade Center Transportation Hub and other WTC site projects. The Hub is being built to replace the temporary PATH station that was constructed after the previous PATH station under the World Trade Center was destroyed on September 11, 2001. Other World Trade Center projects include Common Infrastructure Projects (vehicular security center, new streets and open spaces, and CH&RP); WTC Memorial, Memorial Museum and Performing Arts Center; and the Freedom Tower, Towers 2, 3 & 4, and retail development.

Construction management tasks include QA/QC, inspection services, preconstruction phase services, support services, technical services, site safety monitoring, scheduling, cost management, document control, cost estimating, site construction, logistics, project closeout, environmental reporting and coordination with NYCDOT/NYSDOT, New York City Transit, Lower Manhattan Construction Command Center, NYC Department of Environmental Protection, Con Edison, FTA, and local businesses and communities.

New Jersey School Construction Corporation, Trenton, NJ: Chief Executive Officer responsible for this $8.6 billion program to construct much-needed quality schools throughout New Jersey. The program is the largest public construction program ever undertaken by New Jersey and one of the largest programs of its type in the nation. In 2004, the NJSCC initiated 47 design awards for 55 schools

(renovation/new construction), worth approximately $835 million; awarded 104 construction contracts valued at $930 million; and acquired 205 sites for 15 school projects worth $100 million.

Port Authority of New York & New Jersey, Newark, NJ
Deputy Chief Engineer: Directed the engineering/architectural design, project and construction management, quality assurance and general operations of the Engineering Department, which included a staff of approximately 700 engineers, architects, technical, and support employees and an equivalent staff of architectural, engineering and technical consultants and job shoppers. Engineering provided the professional services to deliver the Authority's $9 billion five-year Capital Program. In 2002, engineering awarded $1.2 billion in new construction contracts and placed $1.1 billion of construction in place. Major programs included:

- John F. Kennedy International Airport AirTrain
- John F. Kennedy Redevelopment Program, a $3 billion redevelopment program including extensive roadway and terminal improvements
- Newark Liberty International Airport, a $2 billion redevelopment program including Monorail, Terminal B expansion, entrance and central terminal area roadway improvements and off-airport access modifications
- World Trade Center PATH Restoration including Exchange Place

Manager, Engineering Management Services Division: Managed human resources, environmental and construction permitting, construction contract estimating and management functions for the Engineering Department. Established project controls for schedule, budget and cost management, drawing management, CAD management and engineering information systems.

Program Engineer: Managed the design efforts for economic and port development including engineering consulting, design and project management for capital construction projects. Major projects included Industrial Parks in Yonkers, NY; Bathgate, Bronx, NY; and Elizabeth, NJ, including site development, commercial industrial buildings and major renovations to existing facilities.

Senior Engineer: Developed a project management system to insure project delivery in scope, schedule and budget. Developed a professional services program including Requests for Qualifications, Requests for Proposals and consultant evaluation and selection.

PANYNJ - Engineer: Responsible for airport road and aeronautical improvement projects including civil design, contract preparation and estimating.

John Worster

Senior Planning Manager

Years of Experience
34

Education
BS, 1974, Mathematics, Wake Forest University

MS, 1976, Transportation Engineering, University of Pennsylvania

Specialized Training
10-hour OSHA Training, 2007

LIRR Safety Training, 2007

Metro-North Safety Training, 2006

NYCT Safety Training, 2006, 2007

Amtrak Safety Training, 2008

URS Corporation

Mr. Worster has over 32 years experience as a program/project manager and construction manager in the transportation industry, including 25 years with Amtrak. During much of his tenure with Amtrak and in his work as a construction management consultant, he has worked in various capacities on railroad and facility related construction projects. He has extensive experience developing, planning and executing major construction projects on Amtrak's Mainline in the metropolitan New York City area. Mr. Worster has worked as a project manager, resident engineer, construction superintendent and/or owners technical representative on various projects ranging in value from $250,000 to $300 million.

Project Specific Experience

Integrated Electronic Security System / Command, Communication and Control Centers (IESS/C3), MTA Capital Construction, New York, NY: Deputy Project Manager for provision of comprehensive construction management services for the MTA's IESS program. The IESS project is a $300+ million design-build project for an integrated electronic security system including field devices, network infrastructure, communication rooms and local, regional and central control centers. Construction includes build out of facilities and system/network infrastructure. Responsibilities include providing resident engineer services including managing/coordinating design review, monitoring/coordinating construction, directing QA/QC inspection, schedule review, project reporting/communication, coordinating agency outages and support, claims analysis, reviewing monthly invoicing, project documentation, and conducting/documenting project meetings and technical workshops. Also serves as Resident Engineer for system installation work on LIRR/Amtrak joint facilities. Project is heavily dependent on track access in Amtrak's East River tunnels.

On the Weehawken Tunnel Ventilation Project, Mr. Worster oversaw the development of the project schedule and represented the project as it was rolled into the approved master schedule. This involved particular emphasis on track access and force account support resources. The schedule was coded to show activities requiring these resources.

Weehawken Shaft Tunnel Ventilation Project, Amtrak, Weehawken, NJ: Project Manager for $30 million tunnel ventilation facility for Amtrak's Hudson River Tunnels in Weehawken NJ. Responsible for all construction management services including construction oversight/inspection, project controls, project administration and project close out. Provided pre-construction services including constructability review, design completeness review, construction bid analysis and pre-award assistance for the construction contract.

Various Projects Amtrak, New York, NY: - Director of Facilities. Senior manager with **department responsibility for facility maintenance and capital improvement work by Amtrak in-house forces** (120 union trade employees) in New York Penn

As Director of Facilities at Amtrak, Mr. Worster represented his department in securing and documenting track access for station and tunnel maintenance activities and in programming and providing force account resources to support capital construction work.

Station and the seven railroad tunnels serving the station. Department annual budget was $3.5 million for maintenance and $7 million for capital construction. Department's responsibility cut across all building disciplines including structural, architectural, mechanical, plumbing, electrical, and life safety. Developed and implemented inspection program for facility's fire life safety systems. Nominated for President's Achievement Award for Departments Safety Recognition Program.

- Project Manager/Project Engineer. Successfully worked as project manager, resident engineer, construction superintendent or owner's technical representative on various projects ranging in value from $250,000 to $300 million. Managed construction projects by Amtrak in-house forces and third party contractors. Extensive range of project work experience in track construction, railroad right-of-way improvements, station improvements, tunnel improvements and facility upgrades. Project responsibility from conceptual design through construction, including construction oversight/coordination, coordinating design reviews, construction inspection, project controls and project reporting. Founding member of Amtrak's Project Management Division for New York Capital Improvement Programs.
- Supervisor/Construction Manager. Responsible for all aspects of the departments operations including safety, supervising/planning daily operations, program development, quality control inspections, budgeting, scheduling and employee relations.

Boiler Conversion Project, New York City School Construction Authority, New York, NY: Project Manager. Project converted coal fired boilers to natural gas or fuel oil burners in 20 NYC schools in Brooklyn. Directed all construction management services including construction coordination/inspection, project controls and project administration functions.

Employment History

2006-Present: URS Corporation Washington Division
2001-2006: DMJM Harris/AECOM
1976-2001: Amtrak

Alan Yager

Field Coordinator – Way & Structures

Years of Experience
35

Education
Fine Arts, 1969, Southampton College

Business Administration, 1967, Kingsborough Community College

Specialized Training
10-hour OSHA Safety, 2008

LIRR Safety Training, 2006

Metro-North Safety Training, 2007

NYCT Safety Training, 2006, 2007

Amtrak Safety Training, 2007

CPM Stand-down Training, 2008

URS Corporation

Mr. Yager has over 30 years experience in rail engineering and inspection, including the installation and inspection of rail signals and developing track maintenance operations. His recent projects include Field Coordinator and construction management services for the MTA Integrated Electronic Security System, which included the complete installation of a regional Command-Control-Communication facility, and the LIRR Penn Station Interlocking Route Restriction Remediation project. In addition, he has developed and provided safety and inspection training, budgeting and project report management, and has worked closely with various public and private agencies.

Project Specific Experience

MTA/LIRR East Side Access, New York, NY - $8,200,000,000: Deputy Construction Manager for Amtrak Force Account. Deputy for all Amtrak Harold Interlocking Force Account construction activities. Provides management for Amtrak Harold construction team on all matters related to Amtrak force account construction and issues resolution. Manages assigned Amtrak Force Account resources in support of the Harold Construction Manager.

- Reports on project status and current issues to the Harold Construction Manager
- Reviews and recommends approval for all Amtrak F/A construction invoices
- Coordinates constructability reviews of design with Amtrak engineering departments
- Manages and coordinates field construction issues between the Amtrak and GEC
- Monitors and reports Amtrak field construction activities to track scope, schedule, and budget.
- Supports preparation of monthly field construction reports
- Works closely with field engineers to compile production rates
- Coordinates work planning activities with Amtrak ensuring all necessary resources are planned for and onsite prior to commencement of work
- Attends weekly track outage meetings to coordinate track requirements for planned construction work

MTA Integrated Electronic Security System/Command, Communication and Control Centers (IESS/C3), New York, NY - $300,000,000: Field Coordinator and Inspector for the installation, testing and implementation of an integrated electronic security system at various locations throughout the MTA system in New York City. Project work included work in under river tunnels, working with rail traffic, coordinating work trains with Agency personnel and ensuring that project activity had minimum impact on client operations. Participates in the scheduling of work and track outages. Supported project work for construction of control centers including architectural finish, HVAC, FM-200, electrical, communications, and plumbing facilities, as well as electronic systems installation and

testing. Responsible for ensuring contractor personnel are providing a quality installation and are complying with safety rules. Ensures that contractor work reflects project design and specifications and updated drawings.

Construction Management Services for Penn Station JO Interlocking Route Restriction Remediation Project, Long Island Rail Road, New York, NY - $22,200,000: Senior Inspector. Work included coordinating, supervising and inspecting the installation of 13 standard and special switches, including four double slip switches, signal equipment, cable and materials, signal apparatus and electric power work for the relay rooms, Communication Based Train Control (CBTC) rooms, track rack rooms, signal workshops and other signal enclosures, and all signal equipment and appurtenances at field locations required for a complete signal system rehabilitation. Work was coordinated with Amtrak and NJ Transit. Construction cost was $22.2 million.

New York City Transit Sperry Car Contract - Superintendent - Project Director, New York, NY - $1,700,000: Responsibilities for this $1.7 million project included budgeting, managing, and scheduling the overall car contract and overseeing contract specifications, which required interfacing with six departments and supervising 14 direct reports. Responsibilities also included reviewing, implementing, and directing safety procedures, training and running inspections in support of all track maintenance, including developing new maintenance procedures for roll out across the entire track system. Also participated in the Mayors Interagency Rodent Control Program, which was responsible for identifying rodent problems/proliferation, investigating their root cause, and developing solutions that impact city-wide rodent control efforts.

New York City Transit Track Maintenance Project Manager: Assisted in the implementation of safety procedures and inspections, which included initiating training sessions for and licensing of approximately 25 track employees. Worked directly with the Office of System Safety on roll-out of system-wide safety standards and requirements, resulting in a 21% decrease in incidents/accidents. Developed the Track Maintenance Supervisors promotional test with the Civil Service Commission, which was administered to 2,500 employees. Worked with a variety of public and private agencies, including city councilmen and state representatives, on an ongoing basis to resolve citizens concerns and to ensure widespread citizen participation. Created presentations for Chief Track Officer to deliver at annual Goal Meeting, which set strategy for overall track operations, including key performance measures.

New York City Transit Track Maintenance Supervisor II, New York, NY: Developed the first zero-base budget and managed the track material budget. Supervised daily track maintenance operations, which covered more than 371 miles of track. Developed the Capital Project Notification Report, which highlighted/forecasted specific project requirements, such as project length and capital required, and which was instrumental in laying groundwork for the current Track Construction Program. Assisted in the implementation of the TGO Defect Information System and Switch Inspection System, which resulted in the roll-out of a fully automated and computerized inspection and reporting system. Also, as Aide to the General Superintendent, worked with field personnel to ensure proper completion of all track work projects, which covered 86 sections of track. Gathered statistical data on track maintenance for reporting purposes and distributed weekly reports to senior management. Monitored the quality and quantity of production for the Track Maintenance Division.

Employment History

2006-present: URS Corporation-Washington Division
2002-2005: HAKS Engineers and Land Surveyors
1974-2001: New York City Transit

Metin Bessim

Field Coordinator – Power, Signals & Communication Division

Years of Experience
20

Education
B.S. Electrical Engineering, Syracuse University, May 1987

Specialized Training
NICET IV
PATH Track Safety Training
2008 National Electrical Code Refresher Course
OSHA 10 Hour Certificate
Coaxial Cable 10 Hour Course

Maitra Associates, PC

Mr. Bessim has over 20 years of construction management and field construction inspection experience in highway, bridge, and railroad projects. He has experience with various electrical systems, components, substations, fiber optics, ITS communications, signal installations and building renovations to ensure compliance with drawings and specifications. He is familiar with Port Authority specs and procedures.

Project Specific Experience

Senior Construction Engineer, Port Authority of New York and New Jersey, PATH - Performed supervision, coordination, and inspection of electrical installations in stations, tunnels, and yards including:

- **Emergency Diesel Generator at Washington Street Substation No 2**
- **WTC Portals Flood gates at Tunnels E and F**
- **SIMULCAST UPGRADE of VHF Radio Channels Phase 2** - Installation and commission of new radio base stations, installation of new simulcast equipment at various locations throughout facility, upgrading existing desk sets at all locations and cutover of new equipment and installation of GPS antennas at all locations.
- **Access Control Keltron Replacement** - Installed card access control readers throughout PATH facility and new doors and advanced alarm systems at all coin rooms and all doors at secured areas throughout facility.
- **LIDS Tunnel Intrusion Project** - Installed tunnel intrusion detection devices at Exchange Place and WTC for tunnels E and F.
- **Temporary Event Detection System Tunnels A B E F** - Installed devices and equipment throughout facility including WTC.
- **Encoder Decoder Project** -- Installation of encoders and decoders for cameras at all locations on PATH facility.
- **Exchange Place Portals Flood Gates at Tunnels E and F**
- **AC Units in Communication Rooms throughout facility**
- **JSTC Beam Pocket Smoke Detectors** - Installation of smoke detectors and integration to existing system at JSTC mechanical rooms.

Senior Electrical Engineer/Inspector, Port Authority of New York and New Jersey, Restoration of PATH Service to Manhattan - Responsible for construction management of electrical systems, equipment and components associated with the rehabilitation and expansion of Exchange Place Station, Tunnel "E" and "F", and temporary WTC PATH station. Inspected other PATH projects, including the following:

- **JSTC Fire Smoke Alarm Modifications -** Lead Engineer on project which consisted of installation of new addressable fire alarm system at JSTC. Also included replacement of existing sprinkler valves at facility. Duties included assuring that system complied with all applicable fire

protection and electrical codes, coordination with PA Risk Management Division.

- **JSQ And Exchange Place Radio Simulcast System -** Lead Engineer on project which consisted of upgrading existing radio communication system between JSQ and WTC.
- **PATH Waldo Car Wash Blower Dryer Unit and Electrical Rehab. -** Lead Engineer on project which included new blower dryer unit at PATH Waldo train car wash and refurbishment of entire electrical system.
- **Washington Street Substation No.2 Emergency Diesel Generator Replacement -** Lead Engineer on project which included installation of temporary and permanent diesel generators and associated switchgear.
- **PATH Digital Video Recording System - Lead Engineer on project which included furnishing and installation of an IP based Digital Video Recording System located in Journal Square Transportation Center. This included installation of encoders, decoders, video servers, master servers, fiber channel switches, ethernet switches, and all associated management software.**
- **PATH Fare Collection System -** Senior Inspector on project which included installation of new fare Collection system throughout PATH system.
- **PATH** tenant projects completed include:
  Storycorps Kiosk at WTC temporary Path station concourse level.
  JSTC - Concourse Level new Duane Reade Store
  JSTC concourse level XCEL Federal Credit Union

Senior Project Engineer, NJSCC, Paterson Public Schools - Developed bid packages for rehabilitation of 31 schools in Paterson, NJ. Provided liaison services during bid opening process.

Senior Inspector, Port Authority of New York and New Jersey, George Washington Bridge, Fort Lee, NJ, Various Contracts - Served as electrical inspector for various projects, including ITS and EZ-Pass installations, upper level lighting upgrade, rehabilitation of Henry Hudson Ramps to GWB, tower elevator upgrade, microwave detector installations, fixed sign renovations. Duties included field inspection, change orders, payment applications and coordination of daily MPT activities.

Senior Electrical Inspector, NJDOT, Route 4 and 17 Interchange Project, Paramus, NJ - Responsible for electrical lighting, ITS communications, traffic signal installation inspections on $120 million multi-stage interchange reconstruction project in Paramus, NJ, as well as inspection of major roadway items such as paving, concrete, grading, barrier replacements, guiderail and bridge items.

Senior Inspector, NJDOT, Route 21 and 46 - Senior bridge and highway inspector on this $26 million project which consisted of connecting NJ State Routes 21 and 46 with 1 major bridge structure for truck traffic. Duties included inspection of all facets of bridge and highway inspection, as well as full responsibility of all electrical items on project.

Employment History

2002 – present: Maitra Associates, P.C.
2000 – 2002: Jacobs Engineering
1989 – 2000: Boswell Engineering

Anthony M. Fleres, PE

Plan Coordinator

Years of Experience
With URS: 8 Years
With Other Firms: 21 Years

Education

B. Engineering (Civil), City College of New York, 1976

MBA, University of Connecticut, 1980

Registration/Certification

New Jersey, New York, Connecticut/Professional Engineer

URS Corporation

Mr. Fleres has nearly 30 year of experience specifically with railroad and transit projects dealing with condition inspection, design, preparation of plans, specifications, estimates, final contract documents, and construction inspection for fixed and movable bridges, railroads, mass transit facilities, stations, and buildings.

Project Specific Experience

MTA East Side Access Project, New York, NY: Responsible for the design for the reconstruction of Amtrak and Long Island Rail Road mainline interlockings in the vicinity of Sunnyside, Queens, NY. This aspect of the project involves the realignment of track to accommodate new tunnel connections to Manhattan, requiring the installation of approximately 40 turnouts and reconstruction of the signal, communications and traction power systems. Work will be performed by a combination of forces of both railroads and third-party contractors of a six-year period.

Confidential Security Project, Project Manager. Managed the design of a radio communication system for a New York City area rail/transit client.

Design for the Rehabilitation of Six Stations on the White Plains Road Line, Bronx, NY $50,000,000: Project Manager for the New York City Transit. Managed the civil/structural design effort for the rehabilitation of six elevated rapid transit stations. Replacement of the station control houses will be performed using modular construction, a first for the New York City Transit system. Anticipated construction cost is over $50 million.

Design of the Upper Harlem Station Improvements for Metro-North Railroad, New York, NY $20,000,000: Project Manager for a multi-disciplined design team in the rehabilitation of 11 stations along Metro-Norths Harlem Line. Major scope items consisted of the extending existing platforms with necessary track relocations, constructing a new station overpass, rehabilitating existing overpasses and upgrading station amenities.

Construction Phase Services for the Long Island Rail Roads Diesel Fleet High-Level Platform Program and the Huntington Station Rehabilitation, New York, NY $50,000,000: Project Manager for the design teams multi-disciplined construction support phase during the installation of new platforms, overpasses and related facilities at 36 stations on eastern Long Island. Oversaw the review of all contractor submittals as well as all design revisions needed to meet existing field conditions and changed railroad operational requirements. Work was split among five construction contracts with a total project cost of approximately $50 million.

Design and Construction of ADA Station Improvements for the Newark City Subway (NJ Transit), Newark, NJ: Project Manager for the structural design effort and lead the construction support phase of this project which provides ADA access at four stations, requiring the total reconstruction of two above-ground stations and the installation new elevators at two underground

stations. The design provided for staged construction to minimize the impact on subway operations and includes track and catenary relocation.

Design of the Park Avenue Viaduct and 125th Street Station Rehabilitation, New York, NY $130,000,000: Managed the design for the structural rehabilitation for the replacement of the steel deck of a 5,500-foot long, four-track viaduct and the reconstruction of a major passenger station in New York City. Significant features included the use of direct-fixation track and the reconstruction of the station with the addition of elevators to provide full ADA access. Significant features included the use of direct-fixation track and the reconstruction of the station with the addition of elevators to provide full ADA access. Project cost exceeded $130 million.

Metro North Commuter Railroads Capital Program, NY: Senior Structural Engineer/Project Manager, responsible for the successful execution of the bridge portion of Metro-North's capital program, including developing project work scopes, establishing budgets, directing consultants and contractors. Additionally, was responsible for the long term planning and development of the bridge component of the railroad's Capital Program. Some major projects included:

Metro-North Structure and Facilities Maintenance Department, Bridgeport, CT: Deputy Assistant Chief Engineer responsible for the inspection and maintenance of the Railroad's fixed and movable bridges, stations, shops and other buildings. Duties included supervision of company bridge inspectors and review of inspection reports, development of annual bridge repair programs, station maintenance programs, design of repairs and direct supervision of the Railroads field construction forces. Major maintenance included:

- Superstructure replacements of open-deck bridges, with ballast deck spans along with associated substructure repairs.
- Major rehabilitation of selected stations including historic building restorations.
- Deck replacements on overhead highway bridges.
- Installation of new catenary poles for an expansion of rail yard electrification in Bridgeport, CT.

Newark Elizabeth Rail Link, Newark/Elizabeth, NJ - $120,000,000: Minimum Operable Segment 1. This project is a one-mile long extension of the existing Newark City Subway in downtown Newark, NJ for NJ Transit. Served as Deputy Project Manager for the Final Design and Construction Assistance Phases, and as Design Manager for the surface running portion of the project, including all track, civil, structural, stations and systems work. Estimated construction cost is $120 million.

Senior Civil Engineer, New Haven/Westchester County, Connecticut/New York: in the railroads Design and Construction Department and was responsible for all contracted construction along the New Haven Line in southwestern Connecticut and Westchester County, NY. Duties included coordinating contractor activities with train operations and railroad forces, reviewing design plans and construction procedures, providing technical and administrative support for outside agency construction work on railroad property. Also inspected construction performed by non-company forces and was responsible for project safety and billing. Typical projects included DOT bridge replacements, utility pipe and cable installations, and building construction along the Railroads right-of-way.

Employment History

2001 – Present: URS Corporation
1996 – 2001: Daniel Frankfurt, P.C.
1983 – 1996: Metro-North Railroad
1976 – 1982: Conrail

Steven Manne

Master Scheduler

Years of Experience
35

Education
BS, 1961, Ceramic Engineering, Alfred University

Specialized Training

10-hour OSHA Training, 2007

LIRR Safety Training, 2007

Metro-North Safety Training, 2006

NYCT Safety Training, 2006, 2007

Amtrak Safety Training, 2008

URS Corporation

Steve Manne has over 35 years of experience in the successful design and implementation of project management systems, procedures, and methods. He has successfully applied his expertise to projects in the nuclear, aviation, transportation and water treatment industries. He oversaw schedule and cost control for more than 450 transit projects. He has also provided claims analysis on various projects and testified as an expert witness in a prudency hearing that helped save a utility $1.5 billion. Mr. Manne currently serves as Manager Project Controls for the Hunts Point Water Pollution Control Program.

Project Specific Experience

New York City Transit Authority - $8,000,000,000: As Deputy Vice President of Program Operations, developed and provided project management information services for over 450 capital design and construction projects. Supervised an organization of 200 people, with an annual budget in excess of $10 million, providing scheduling, cost estimating, computer and program information, and claims analysis services. Identified weaknesses in construction contract and guided interdepartmental team in revisions. Was cited by the Urban Mass Transit Administration (now the Federal Transit Administration) and nominated by Engineering News-Record as a candidate for Engineer of the Year.

Major rail projects completed during tenure included the $278M Lexington Avenue Main Line Rehabilitation, the 63rd Street Tunnel, the Herald Square Station Rehabilitation, the Station Upgrade Program, and secure off-line train storage

Newark Liberty International Airport Monorail, Newark, NJ - $45,000,000: Project Controls Manager responsible for creation and updating of all construction, testing and startup schedules for all three projects. Managed the scheduling and reporting functions on the Newark Liberty International Airport Monorail system projects both for the client and from the client to the Port Authority of New York and New Jersey. The simultaneous projects of Phase 2 and the Guideway Retrofit Program required the development of a Program Master Schedule integrating the individual project detail schedules.

New Jersey Department of Transportation Engineering Analysis, Trenton, NJ: Served as part of project team assisting the New Jersey Department of Transportation to re-engineer its policies, procedures and protocols for the delivery of capital projects. Evaluated management systems and established a database of all relevant project information.

Denver International Airport, Denver, CO - $3,700,000,000: URS was requested by the City and County of Denver to join the airport project when it was 50 percent complete. As Scheduler responsible for creating and managing the highly successful Schedule Impact Group, which analyzed and resolved contractor acceleration and delay claims. Within the group's first six months, more than

$15 million in savings were realized. Later served as Manager of a team of 31 schedulers, overseeing and participating in preparation of schedules for critical construction tasks, system testing, and startup activities, including recovery CPM (critical path method) schedules for the $315 million main terminal and critical airport systems. Played a lead role in the baggage system risk assessment, in July 1994, resulting in the decision to install an alternative baggage handling system, allowing the airport open to rave reviews in February 1995.

Grumman Aerospace Corporation, Bethpage, NY: As Project Planning Engineer, prepared CPM schedules for a wide range of advanced aircraft and spacecraft projects, including the Space Shuttle, the F-14 Tomcat fighter, the E-2C Hawkeye and the EF-111A Raven.

Co-authored cost-and-schedule-performance measurement system specification and played key role in the DOD (Department of Defense) research and development and production management systems validation.

Hunts Point Water Pollution Control Program, Bronx, NY - $450,000,000: As Project Controls Manager, is responsible for all cost, schedule and document control management for the Hunts Point WPCP Upgrade Phases 1 and 2 construction management contracts; projects with an estimated construction value of $450M. Tasks include review and analysis of contractor submitted schedules, review and processing of payment applications and contractor change order estimates, maintenance of all project document records, and production of all monthly reports to the NYCDEP. The accomplishment of these tasks required the implementation and maintenance of a web-based cost and document control and reporting system. This system contains all project cost, schedule and document records, and is accessible by both the NYCDEP and the project staff over the Internet. The successful implementation of this system included working with project staff and the Information Technology staff to develop all required report formats and outputs, to satisfy project needs and the information requirements as set forth in the contract. Additional tasks included managing the purchase and setup of all office computer services.

Architect Engineering Company, Oradell, NJ: As Manager of Planning and Scheduling, provided services for a wide range of projects, including Forked River Nuclear Power Station, the Three Mile Island Accident Recovery, and the multi-billion-dollar Clinch River Breeder Reactor Plant, at that time the largest developmental project undertaken by the DOE (Department of Energy). Provided successful claims analysis of a schedule-extension claim and $3 billion prudency hearing.

International Specialty Contractor, New York, NY: As Assistant Vice President, Project Controls, implemented advanced job cost, scheduling, and cost estimating systems; developed interfaces between cost estimating, scheduling, and job cost systems to speed up job startup procedures.

Employment History

10/1992 - Present: URS Corporation
1/1991 - 10/1992: Fischbach Corp
6/1985 - 12/1990: NYCTA
11/1977 - 6/1985: Burns & Roe
3/1968 - 11/1977: Gruman Aerospace
1961 - 3/1968: Various Ceramic Engineering Positions

Joseph Bou-chedid

Cost Engineer

Years of Experience
25

Education
B.S., Engineering Science, State University of New York at Stony Brook, 1982

Professional Registration
Certified Value Engineer, 1996

Integrated Strategic Resources

Joe Bou-chedid has an extensive background in managing and preparing cost estimates, starting at the conceptual/budget stage through design and construction to project completion. For seven years, Joe was Manager of NYCT Cost estimating division for the Stations Rehabilitation program area. These disciplines have included mechanical and electrical as well as civil and structural. During his career, Joe has played a vital role, spearheading effective cost estimating, of multi-billion dollar transportation and infrastructure projects throughout the east coast. These programs included not only new construction, but also expansion and extensive and complex rehabilitation of existing projects ranging from the PANYNJ JFK (DBOM) Airport Access Program, detailed estimates for the Tappen Zee Bridge replacement with tunneling, rail, and roadway expansion options, the MTA's East Side Access Project, and Hudson-Bergen Light Rail Transit System (DBOM).

Project Specific Experience

Portal Bridge, NJ Transit. Joe is leading the estimating effort for the Preliminary Engineering of the Portal Bridge project. This significant effort involves this includes replacing the existing bridge with two parallel structures: a new three-track fixed northern bridge and a new two-track moveable southern bridge.

Sea Beach Line Station Rehabilitation, NYCT. Joe was added to the existing contract to provide cost estimating for all civil/structural, architectural and mechanical disciplines for the preliminary through construction bid services for the rehabilitation for the nine (9) Sea Beach Line NYCT Stations.

THE Tunnel, NJ Transit. Joe provided independent cost estimating for the CM Consortium for the new proposed Hudson River Tunnel for NJ Transit. Joe was responsible for estimating the civil/structural surface work, the loop track and the catenary foundations and structures. The CM consortium reconciled their estimate with that of the designers. The estimate was within a 4% margin across the board in all disciplines and preliminary work scopes.

NYPD Vehicle Storage Facility, Joe is providing estimating for the design for the proposed NYPD vehicle storage facility The project Site consists of about 12.97-acres of vacant land. The proposed NYPD vehicle storage facility will contain nearly 3800 spaces – 3693 vehicles in and around two- to three-level high parking stacker units and 100 vehicle spaces in a car crushing area. Also included are paving, permanent perimeter treatment/fencing, 24-hour lighting, 24-hour security, and administrative trailers.

Penn Station Enhancement Program, NJ Transit. Joe provided estimating for the joint venture designing the extension of tracks one and two from Penn Station to the new Moynihan Station. Preliminary engineering for Penn Station Capacity enhancement for NJT includes the Eastern extension of platforms 1 and 2 with extension of tracks 1, 2, 3 and 4 under NYC Transit's 7th Avenue subway, construction cost of $140M. The Western extension of platforms 1 and 2 and trackwork and West end LIRR concourse extension and stairways to platforms 1 and 2, construction cost of $50M. The final contract involves connecting LIRR concourse to Amtrak's concourse Level A under NYC Transit's 8th Avenue subway, construction cost of $50M.This additional access includes track, signal, and platform work as well as a new pedestrian walkway.

LIRR West Side Yard Substation Replacement, New York City. . Joe provided estimating for all structures and utilities in support of three design options for the Long Island Railroad Substation Replacement of West Side. The purpose of this project was s to design and provide construction phase services for a new AC/DC substation at a relocated site beneath 33rd Street between 10th and 11th Avenues in order to allow the decommissioning of the existing substation in west side yard storage yard.

Airport Access Program, New York City. Joe served as project estimator during this design-build-operate-maintain connections between the airport and existing Long Island Rail Road (LIRR) and New York City Transit (NYCT) stations. Joe as project estimator for the general engineering consultant, determined costs for design and construction of the civil/structural elements as well as managed the electrical, HVAC, plumbing, and fire protection systems. The project provided a wide range of planning, design, environmental analysis, construction management, and procurement activities, while also helping to operate a program office jointly with Port Authority of New York and New Jersey (PANYNJ) staff members.

VE Workshop for Somerville Station., NJ Transit. Joe led the value engineering consulting services (workshop) in connection with the design prepared for the ADA Upgrades and High Level Platform Modernization at the existing Somerville, New Jersey rail station for NJT. The work included preparation for a five-day workshop, leading the workshop and follow up reports.

Employment History

Integrated Strategic Resources: 2004 - present
PACO Group: 2003 - 2004
Parsons Brinckerhoff, Inc.: 1996 - 2003
Federman Design and Construction: 1993 – 1996
New York City Transit: 1985 – 1993

Craig Gyory

Jr. Cost Estimator

Years of Experience
21

Education
BS, 1993, Civil Engineering,
University of Toledo,
Toledo, Ohio

URS Corporation

Mr. Gyory has over seven years of concentrated experience in developing contractor relations, estimating and project managing in the commercial construction industry. In addition, he offers 14 years of progressively responsible, comprehensive experience in heavy highway and underground construction, including drainage and utility work.

Project Specific Experience

PATH Port Authority of NY & NJ: Tunnel Mitigation Projects Tunnels A & B and E & F, New York, NY: Estimator. The Tunnels A & B Mitigation Project included the complete demolition and subsequent reconstruction of its electrical duct bank. All projects involved elements of phasing, staging, providing for PATH involvement and interaction, as well as numerous work restrictions. The containment and removal of hazardous (ACM) materials was also addressed.

PATH Port Authority of NY & NJ: Flood Mitigation & Gate Installation, Caisson One Upper Deck Tunnels A & B (ongoing conceptual estimate), New York, NY: Estimator for this $112 million project involving cast-in-place version to date. Assisted with take-offs and quantities, helped prepare preliminary spreadsheets for conceptual estimate.

CUNY The City University of New York - Five Laboratory Renovations: Estimator for CUNY for Five Laboratory Renovation with Five separate Labs at five different New York Colleges - April, 2008 Pre-bid Stage -Estimated Cost $5,000,000. Prepared several estimates based on progressing sets of drawings and/or specifications to renovate five laboratories, ranging in size from 1,100 sf to 2,000 sf. All labs are in an occupied facility, with classes ongoing.

Various Commercial Interior Projects, Cleveland, OH: Chief Estimator/Project Manager hired to develop and secure unmarked territory for expanding commercial interior contractor. Developed territory in declining market area and helped to produce record sales for several consecutive years. Handled all aspects of estimating commercial interior finish work, project management, follow-up on referrals/customer inquiries, to networking customer base and developing relationships with general contractors. Prepared and oversaw project estimates ranging up to $500,000.00 in size, and managed all projects awarded.

Ohio DOT and City Highway and Road Projects, Cleveland, OH: Project Superintendent/Assistant Project Superintendent- Full responsibility for multimillion dollar state Ohio DOT and city highway/road projects. Responsibilities ranging from coordination of subcontractors and materials, scheduling, and supervision of multiple projects simultaneously, to establishing and maintaining professional relationships with state and city officials, working with project engineers to resolve design conflicts and a major emphasis on reduction of labor costs. Hired as a Co-Op on survey crew while attending college.

County Route 2, from I-90 to Main Avenue Bridge, Cleveland, OH: Estimator for this $9 million Contract. Project involved rehabilitation of existing pavement, adding new median barrier wall, new electrical and signage, and new asphalt overlay.

Estimator/Project Manager: Prepared project estimates, executed contracts and extra work/change orders, attended preconstruction and progress meetings, coordinated all personnel and material deliveries to jobsites, as well as frequent public relations work associated with project residents and business owners. Responsibilities also included maintenance of accounts receivable, accounts payable and payroll.

Interstate I-90, from Deadmans Curve to East 140th Street, Cleveland, OH: Estimator for this $22 million contract. Project involved rehabilitation of existing pavement, adding new median barrier wall, adding new exit/entrance ramps, new electrical and signage, and new asphalt overlay.

Interstate I-90, from East 140th Street to Euclid Spur, Cleveland, OH: Estimator for this $17,500,000 contract involving rehabilitation of existing pavement, adding new median barrier wall, new electrical and signage, and new asphalt overlay.

Stevens Boulevard from East Lakeshore Boulevard to Route 91, Cleveland, OH: Estimator for this $5,500,000 project responsible for complete removal of existing road, relocation of utilities, undercut to new elevation, and new 9 RCP.

Willowick Drive, from Vine Street to Lakeshore Boulevard, Eastlake, OH: Estimator for this $4,300,000 contract. Project involved complete removal of existing road, relocation of utilities, undercut to new elevation, and new 9 RCP.

Employment History

URS Corporation: 2008 – present
Commercial Interior Resources: 2003 – 2007
GTI, Inc.: 2000 – 2003
Anthony Allega, Inc.: 1991 – 2000

Section F: TECHNICAL APPROACH

In order to develop a thorough understanding of the scope and nature of the Professional Planning, Project Management and Related Services that PANYNJ (the "Authority") is seeking, we thoroughly reviewed the Authority's RFP including PATH's Draft Comprehensive Logistics Plan.

Based on our review, URS understands the PATH multi-year Capital Program and that there are several other PANYNJ groups also planning maintenance and capital projects that will impact the PATH system.

We noted the level of the work planned by PATH, along with the work planned by the other PANYNJ groups, is well beyond the level that has typically been required to meet normal operating and capital programs. As a result, PATH became concerned about the impact the program will have on its operations.

To address these concerns, PATH initiated an internal review and determined that the amount of work planned, if not managed properly, would have an unacceptably disruptive impact on the PATH system which maintains scheduled service 24 hours a day, seven days a week for 365 days per year.

To assess the potential impact, PATH initiated a comprehensive study of the logistical requirements for efficiently executing the planned work. That study culminated in the development of a Comprehensive Logistics Plan that identified the major issues that PANYNJ and PATH would have to effectively address. Only by addressing those challenges could PATH accommodate the on-going MOW maintenance and new construction without hindering the reliable and efficient PATH service.

URS staff brings a thorough knowledge of PANYNJ procedures derived from decades of working with the Authority

PATH also determined that managing all the elements identified in its Logistics Plan would be particularly complicated and time consuming. Therefore it decided to form a dedicated Logistics Planning Group (LPG) to oversee and coordinate all the proposed work. PATH also decided to retain an outside Consultant to provide the LPG, on an on-call basis, with whatever resources it might require during the execution of the Capital Program.

Based on this understanding URS has selected staff for this assignment who are ideally suited to provide the services PATH will be seeking. The staff we selected possess a clear understanding of the complexities of operating and maintaining a 24/7/365 transit system. They also bring a thorough knowledge of PANYNJ procedures derived from decades of experience working with the Authority and knowledge of PATH Track Rights protocols derived from our current work with PATH.

Logistics Planning Support:

We recognize that there are four elements that must be considered in planning the logistics for supporting the proposed MOW maintenance and new capital work on the PATH system: Track Rights (access to work sites); Facility Forces; Construction Support Equipment; and Construction Staging Facilities.

Before any work can begin, PATH must authorize the contractor to access the work site in the zone where the work will take place. Then the PATH Transportation Division must assign a sufficient number of Facility Force Staff for flagging, 3rd rail power cutoff, utility relocations, etc. and the PATH, or the contractor, must provide sufficient work trains to transport the requisite construction manpower and equipment to the work site. Finally the contractors must have access to a sufficient area for staging.

Each of these elements (Track Rights, Facility Forces, Construction Support Equipment; and, Construction Staging Facilities) represents a constraint on construction. If there is an insufficient amount of any of the four, construction will be impeded. Therefore, URS will work with PATH to make certain the requisite resources are available when needed.

To help PATH make certain these resources are available as required, we will, on a continuous and project-by-project basis, work with PATH to analyze the needs of each project. In assessing the resource needs, we will draw upon PATH's prior experience, the contractor's estimate of his requirements, and our own knowledge of time, manpower and equipment needed to complete specific construction projects.

Once we determine the resource requirements, we will communicate them to PATH well in advance of the time the actual work will start. Thereafter, we will work closely with PATH to track the acquisition of the required resources to make certain they are available when needed.

We recognize URS' ability to project total resource requirements will be particularly critical to the success of the Capital Program, and we understand PATH's analysis that its resources are not likely to be sufficient. It appears PATH will need to retain up to 79 additional personnel for its Facility Forces, 16 new flat cars for the Security Signal Replacement and WTC programs, and additional facilities for storing and loading work trains and for construction staging. Therefore, we will work with PATH to provide assistance as needed to make certain the acquisition of these resources moves forward on schedule.

As Director of Facilities for Amtrak, our proposed Senior Planning Manager, John Worster, represented the department in securing track access for stations and tunnels maintenance activities and documenting the approved outage plan for each department.

Acquiring these additional resources will take time. Therefore, to make certain we provide PATH enough time to acquire them, we will need to inform PATH as quickly as possible of our projections of resource needs. Thereafter, as the inevitable program changes occur, we will also have to continuously and expeditiously update our initial projections to provide PATH sufficient time to react to changing needs.

This process of analyzing resource needs of individual projects will not, however, provide us sufficient information to estimate the cumulative resource requirements for supporting all construction projects underway at any given time. To do that, we will need to know when each project will begin and end. Only when we know how many projects will be underway concurrently will we be able to accurately estimate the total amount of the resources needed to support them. To gain that knowledge we will need a Master Schedule

Project and Master Program Scheduling

To develop our projection of total resource requirements during all phases of the Capital Program, as soon as we join the project we will develop and resource load or, to the extent they already exist, build upon schedules for each identifiable project. We will then use those individual schedules to update the existing Program Master Schedule that PATH prepared during development of its Draft Comprehensive Logistics Plan.

Once we have updated that Master Schedule, we will update the resource loading and provide PATH our most current estimate of total resource requirements during all phases of the work.

URS realizes that PATH expects many program changes will occur between now and the time the Capital Program is in full swing, and we anticipate that we will have to frequently update the initial Master Schedule and reassess resource requirements.

A key constraint that was identified as PATH developed its Master Schedule is Track Rights. Even though PATH could meet the needs of the planned program by increasing its Facility Force Staffing, ordering new equipment and increasing the number of staging areas—all required to meet the needs of the planned program—it could not expand the track rights capacity sufficiently to accommodate the initially planned schedule for all construction projects. This held true even if the duration of track outages were increased from the existing twenty eight (28) hours per week to forty-four (44) hours, the maximum possible increase.

In effect, track outages became the critical path for the construction program. It dictated the amount of work that could progress at any given time, and that level of work, in turn, dictated the amount of Force Staffing, Work Train Equipment and Staging Facilities that could be used to support construction operations.

To optimize the construction schedule, while accounting for the limitations imposed by the availability of track rights, using Primavera P6 scheduling software, PATH developed a resource-loaded schedule to maximize the amount of construction work that could be accommodated during different time intervals without exceeding the time available for track outages.

As Project Manager for the Weehawken Shaft Tunnel Ventilation project, John Worster oversaw the development of the project schedule and master schedule for the New York Division, with particular emphasis on track access and force account support services.

To develop that schedule, PATH first had to identify all the construction that was planned. This it accomplished by meeting with all the other PANYNJ Groups that were planning work in the PATH system. Then, working with those groups, and the groups involved in supporting construction operations, it developed a priority for all the projects that were planned. Once those priorities were established, and the track right constraints identified, PATH established start and finish dates for all the planned projects. PATH then adjusted the start and end dates for those priority projects so as always to keep the requirements for track rights capacity under 44 hours. Thereafter, PATH projected the need for the other resources (Force Facilities, Work Trains and Equipment and Staging Areas) and then adjusted the initial schedule to "LEVEL" the requirements for those resources thereby avoiding any significant peaking in resource requirements. This is the process we will continue to follow as the Capital Program moves forward.

As the program moves forward, and changes occur that will require us to update the Master Schedule, we will initially focus on the potential impact any change will have on Track Rights then work closely with PATH to optimize the Master Schedule and level resource requirements.. In effect, we will employ the same process PATH utilized to develop the initial Master Project Schedule.

Evaluation of PATH Facility Force Requirements

The successful delivery of PATH's Capital Program will be contingent on the efficient coordination of Facility Forces with construction operations. Therefore URS will focus on helping PATH optimize this coordination.

To make certain this coordination runs smoothly, URS will assign key staff with extensive rail operations experience including, Facility Force coordination. They will work closely with PATH's

Transportation Division to make certain PATH is aware of Facility Force staffing requirements well in advance of the time that staff will be required on site.

We understand that PATH has already developed a preliminary Facility Force forecast that reflects the requirements derived from its recently developed initial Master Schedule. We also recognize that the current staffing forecast is likely to change because the sequence, scope and/or duration of the projects now shown on the Master Schedule will be subject to changes for many reasons including:

- Changes in project program requirements
- Changes in project prioritization
- Addition or deletion of projects
- Delays in project execution either during design or construction.

As any change that impacts the Master Schedule could impact Facility Force Staffing, we will need to keep track of those changes. To do this we will assign a single person to be responsible for gathering data on any proposed changes and for tracking there status once they are identified. Therefore, throughout all phases of the work, as soon as we detect a change, we will immediately notify PATH and begin our analysis of the impact that change will create.

We will begin our analysis by examining the impact the change would have on Track Rights as we know that if it does impact access to work sites, it will impact the schedule. Thereafter, if the change impacts Track Rights, we would work with PATH to revise the Master Schedule so as to accommodate the change in a way that would minimally impact the program delivery. Once we completed that effort, which would include a resource leveling analysis, we would be able to accurately access the change in Facility Force requirements. (Note: If a change did not impact Track Rights, we would none the less examine its impact on Facility Force staffing as it is possible some changes could increase or reduce staffing requirements without impacting the overall schedule.)

Coincident with our identifying the change in staffing requirements, we would estimate the cost for the change in Facility Force support and notify PATH of the extent and projected cost for the changed Force staff requirements.

On the MTA IESS/C3 $300 million project our proposed Senior Planning Manager, John Worster, reviewed and commented on agency estimates for force account support of construction, scheduled and monitored force account staffing, and reviewed force account charges against project budget.

In addition to estimating changes in staffing requirements that result from program changes, we will continuously monitor the actual level of Facility Force staff PATH assigns to each project and access the progress of the work to determine if that level of staffing is adequate. To help us with this effort, on larger projects that will be managed by a Construction Manager, we will ask that CM to provide us with a resource-loaded four-week lookahead schedule. For smaller projects, that might only involve a few workers or a small gang without a CM, we will directly analyze project requirements. If we determine that more, or less, staffing is required, we will alert PATH and, based on actual experience, if needed, modify our staffing estimates for future projects. Through this process we will make certain that projects , both large and small, are receiving the resources they need.

To assist the Authority's Management and Budget and Human Resources Departments to assess staffing requirements (and other resource requirements) as quickly as possible after joining the project, we will update the current projection of those requirements that were based upon the initial Master Schedule. For the force staff , we will seek to identify the number of staff required, subdivided by Division (PS&C, W&S, Transportation) and by position (e.g., Cable Splicer, Communication

Technician, MEO, MER, Pilot, Worktrain Crew, etc.) and, based on the resource-leveled Master Schedule, develop a staffing histogram indicating the number of staff required during all phases of the work. We will also develop an estimate for the cost of that staffing as well as the cost of the Construction Support Equipment and Construction Staging resources required for all the MOW and capital construction projects. This will provide PATH a budget for all work it will be called upon to perform and will serve as a baseline against which to monitor changes as the Capital Program progresses.

Based on that estimate, and the Master Schedule, we will also develop a Cash Flow for PATH's use. Thereafter, at least monthly, we will update our staffing histogram to reflect the most current projection of project staffing requirements and, based on the cost data we will collect on the monies PATH spends providing other resources, we will develop for PATH an analysis of the funds it spent to date on the Capital Program and the funds we anticipate it will spend to complete all the Capital Program work.

Logistical Support

We recognize that the PATH Capital Program will be an extremely complicated endeavor and that optimizing the delivery of all the projects included in the program will require multiple investigative analyses. Therefore, to perform those studies, we will support the Project Team we assign to this work as needed with the full resources of URS. These resources are substantial, as URS is one of the nation's leading firms in Mass Transit and Rail Design and regularly manages many of the nation's largest, most complex rail projects, including the $8.1 billion LIRR East Side Access Program and the $1 billion + AMTRAK ARRA funded, system-wide Station Rehabilitation Program.

URS staff also has a long history of successfully meeting all PANYNJ requirements on its Call-In Programs. Currently, we are effectively providing that support on for the WTC Site Redevelopment, LaGuardia Airport and Security Capital Program. On these, and multiple other assignments, we have supported the Authority's staff by developing analyses, preparing specifications, crafting contract language, preparing graphics, etc. and we have staff immediately available to perform those tasks for this assignment. We also have more than adequate field staff, trained to work safely on active rail tracks, immediately available to provide Employee-In Charge (EIC) or other services as may be needed to support the Capital Program.

Program Deliverables

As soon as we start work on this project, we will meet with PATH's staff to review the deliverables that PATH will require URS to prepare and submit during all phases of the work. To make certain we meet PATH's requirements, we will review with PATH the required content, format and frequency of all the submittals PATH will require. Thereafter, we will prepare a draft of those submittals for PATH to review and comment on, at least one week prior to the date PATH requires their formal submittal. PATH's comments will then be incorporated into the final draft of the submittal and forwarded to PATH's designated representative.

Section G: MANAGEMENT APPROACH

Project Team

To help us assemble our core Team that will provide the full range of Professional Planning, Project Management and Related Services PATH will request, and to meet the Port Authority's well founded affirmative action goals, URS has reached out to Maitra Associates P.C., an MBE firm, and Integrated Strategic Resources (ISR), a WBE. Both firms are well respected and capable and we have worked with both successfully on numerous prior assignments.

In Section E of this proposal (Staff Qualifications and Experience), we have included an Organization Chart that is modeled after the Organization Chart the Authority included in its RFP and shows the staffing we are proposing for this work.

Management Approach

To develop our Management Approach, we thoroughly reviewed the Scope of Work detailed in the Authority's RFP. Based on that review, we understand that PATH desires us to act as an extension of PATH's staff, to provide a core Team, who will be located in PATH's Journal Square Transportation Center (JSTC) in Jersey City.

That core Team will work closely with PATH's Logistics Planning Group (LPG) to provide planning, coordination and oversight services as needed to help PATH's Logistics Planning Group (LPG) to develop and execute a comprehensive plan to efficiently delivering the PATH multi-year Capital Program without negatively impacting day-to-day operations of PATH's transit system.

To provide PATH the assistance it will require, we have selected for our core Team individuals skilled with the use of Primavera P6. They will be assigned to help PATH continuously update and maintain its Master Program Schedule, a document we realize will be LPG's most effective tool for planning program delivery.

The individuals we selected will also help PATH to resource load the Master Schedule to develop accurate projections of resources requirements (i.e., Track Rights Capacity, Facility Force staffing, Construction Support Equipment and Constructing Staging) during all phases of the work.

In addition to helping PATH identify the resources needed for efficient construction, our staff will also work closely with PATH's representatives to make certain that those resources, once identified, become available when needed.

We also have included personnel on our Team with extensive rail experience who are accustomed to estimating the need for track access rights and reconciling conflicts among the competing needs of capital projects, ongoing repairs and system maintenance all while maintaining efficient rail operations. As directed by PATH, they will work with all PANYNJ Groups that will have projects underway on the PATH system to help coordinate their work. They will help PATH continue the project prioritization process it began while developing the initial Master Program Schedule.

During the execution of the Capital Program, to help PATH keep track of the progress of the many construction projects that will be underway, we have provided Field Coordinators who are experienced working on active railroads and have a thorough knowledge of construction. They will regularly visit every construction site to assess the number of Facility Force personnel actually working at those sites and to gauge the actual progress of the construction work. Thereafter, they will report on their observations providing data for ongoing analyses of each projects adherence to its projected schedule and budget.

We also understand that PATH will look to us to provide analyses or perform studies on items that have the potential to impact the delivery of the Capital Program. These assignments will be made randomly on a call-in task basis. To execute this work we will augment our core Team as necessary with staff that possesses expertise in the particular area that PATH desires URS to study.

URS will be readily able to provide this service as we can draw upon a large cadre of experienced professionals to draw upon. In New York our staff numbers well over 600 and we have over 1200 employees in the tri-state area. We also will be able to respond to PATH's requests efficiently as we are accustomed to working on an "on-call" basis. In fact, over 60% of URS' assignments in the New York area are on-call assignments.

Over the past decade URS has worked on multiple Call-In assignments for the Authority including our current On-Call Security Capital Program and On-Call CM and PM programs. We also are working on multiple other on-call assignments providing on a task-by-task basis, Civil, Mechanical, Structural, MEP, Electronics, and Traffic Engineering. Therefore we are thoroughly familiar with the newly revised procedures the Authority is employing to manage its on-call contracts. We also have an outstanding record of efficiently meeting all the Authority's needs whenever the Authority calls upon us.

The process we propose for receiving and then executing the individual Task Orders we are called upon to complete for this assignment is as follows:

We will designate John Worster, our Senior Planning Manager, to be the individual to receive Task Order Requests from the PATH.

Upon receipt of a Task Order Request, John will determine if the Task could be accomplished by one of our core Team members resident at the JSTC. If not, and if URS home office staff will be required, he will meet with Dave Beckett, who currently manages the allocation of URS resources on several other Authority Call-In Programs. Together they will review the scope of the work requested and determine who to assign as a URS Task Manager. That choice will be dictated by the nature of the assignment, and John and Dave will select for each assignment that Task Manager who has the best directly related experience.

Upon selection, the Task Manager will develop a thorough understanding of the scope of the proposed assignment and determine the resources that will be needed to deliver it. He will also establish a schedule for the work that will meet PATH's delivery requirements. He then will meet with Dave Beckett and Bill Marman PE, respectively our PM/CM and Engineering Technical Resources Managers, to enlist their aid to confirm his estimate of the required staffing and the anticipated schedule duration.

Our Task Manager will also work with Dave Beckett and Bill Marman to identify the most qualified individuals from each design discipline that would be assigned to the work. Dave will have the primary responsibility for identifying construction staff, and Bill Marman the primary responsibility for identifying engineering staff. In making their selection, they will focus on the experience, skills and availability of staff to ensure we are able to quickly provide a quality response to each assigned Task. (Note: We recognize that there will be occasions when PATH, instead of wanting URS to execute a specific Task, will simply want us UIRS to provide staff to PATH to work under PATH's direction. In those instances, instead of selecting a Task Manager, Dave and Bill will select and propose to PATH the individuals we feel will bet meet Path's requirements.

Once Dave, Bill and our Task Manager complete their assessment of the Task requirements, Dave Beckett and the Task Manager will submit a detailed proposal for performing the Task to the Authority. That Proposal will include:

- A statement of our understanding of the issues and tasks
- The identities of URS Team Members, including MBE/WBE's, and, if required, sub consultants, who will perform the work. For each individual identified, we will define their specific roles and responsibilities
- A list of specific technical steps we propose to take as we execute the work
- An overall project schedule
- A staff analysis and fee estimate
- A construction cost estimate if required

Thereafter, with PATH's consent, the URS Task Manager will review the proposal with the PATH's LPG representative and refine it until the scope of design work, and the budget for performing that work, meet with the PATH's approval. In our experience, this collaborative approach helps to make certain that we fully understand and are aligned with the Authority's goals and objectives.(Note: We recognize there may be occasions when PATH, in lieu of negotiating Task assignments, will desire URS to submit a competitive proposal for accomplishing a specific Task. On those occasions, we will follow this same basic process that will also culminate in our submission of a competitive proposal.)

Upon the Authority's issuance of a Notice To Proceed (NTP) to URS, in the form of a Call-Award Letter, URS will assign the designated technical staff to initiate the required work.

On occasion, the Authority may need to initiate a Task quickly to meet overall program schedule requirements or to respond to an emergency. In such cases, the Authority could assign Tasks to URS on an "emergency basis" through verbal notification to us and the issuance of a NTP. We then would respond immediately by joining with PATH's LPG representative to review in detail the PATH's requirements.

Our Task Manager will be responsible for leading the team of professionals assigned to execute the work. He will be responsible for coordinating all work with the PATH's LPG representatives and for making certain they are immediately aware of any issues.

Our Task Manager will be responsible for project delivery through all work phases and for monitoring project status and providing data and reports that will support real time decision making. He will keep the LPG's representatives informed as to the actual progress of the work and will make certain the Team assigned to the Task completes it by or before the target date within the staff hour budget accepted by PATH

Management Protocol and Quality Control

To ensure seamless collaboration with PATH's LPG representatives, and to foster the efficient delivery of our base service and any Task we receive on a Call-In basis, URS will:

- Develop an overall Project Management Plan (PMP) that will address procedural issues and will be coordinated with the Port Authority requirements. This PMP will define the responsibilities for all parties involved in project delivery and will detail the process we propose for controlling cost, schedule and quality of our base service and each Task Order assignment we receive.

- Have our Principal-in-Charge, Jack Spencer, P.E., periodically review the work we are performing to make certain we are performing our services effectively and efficiently and that the Authority is fully satisfied with our performance.
- Develop and maintain a Program-wide centralized document tracking and control system for all project documents that facilitates the logical storage and timely retrieval of all project documents. This system will take into account the sensitive nature of security designs and provide for the transmission and storage of documents in a secure manner consistent with the Port Authority's protection standards.
- Develop and submit a project specific Quality Control/Quality Assurance Program that addresses all the services we will provide to the Authority and then have our Quality Control Officer, Ed Sullivan, periodically audit our Team's performance to make certain they perform their services in accord with the guidelines detailed in our QA/QC program.

Summary

The URS Team is confident we have the execution plan, the expertise and the seasoned professional staff to help PATH expeditiously, safely and cost effectively complete its Capital Program while maintaining the integrity of its rail operations and providing reliable efficient service to the passengers it serves.

Section H: SUBCONSULTANTS

Maitra Associates, P.C. (MBE)

Maitra is an established multi-discipline engineering design and construction management firm serving the needs of a wide variety of clients in the transportation, institutional and facilities markets. Since its founding in 1982, Maitra has grown from a two-person office to a regional firm with 62 professionals located in design centers in New Jersey and New York City. Maitra offers professional services within several disciplines including civil/site engineering; structural engineering; electrical engineering; mechanical engineering; survey/mapping and construction management/inspection. The firm's diverse staff is comprised of experienced professionals who provide client-focused, technically superior and cost effective engineering and construction management services, within an interdisciplinary team environment. Maitra is a certified Minority-Owned Business Enterprise.

Integrated Strategic Resources LLC (ISR) (WBE)

ISR provides estimating, systems integration, security threat assessment, contract administration, and onsite inspection. ISR recently served on an interdisciplinary team for a Security Program Peer Review Analysis chartered by the MTA's Board of Directors to assess the readiness of an $800 million integrated electronic security system for implementation. This review included all infrastructure elements including transit stations, bridges, and tunnels and encompassed the enterprise architecture, overall objectives, schedule, technical adequacy of subsystems, and contractor performance. ISR is currently providing estimating services to the MTACC for the design and implementation of various electronic, hardening and consequence management projects. For NJ Transit, ISR assisted the agency in negotiating an MOU with Conrail on shared radio frequency usage for a track-envelope intrusion detection warning system to comply with FRA requirements. ISR is currently a subconsultant to the Washington Division of URS under its Security Capital Programs call-in contract. The firm is a certified Woman-Owned Business Enterprise.

Section I: M/WBE PARTICIPATION

URS is fully committed to meeting the Port Authority's goals for MBE and WBE participation under this contract. To this end we have included the following firms on our team:

- **Minority-Owned Business Enterprises**
  - Maitra Associates, P.C. Maitra will provide Field Coordination services.

- **Women-Owned Business Enterprises**
  - Integrated Strategic Resources, LLC (ISR). ISR will provide Cost Engineering services.

The qualifications of these firms and their key personnel are provided in **Section E: Staff's Qualifications and Experience** and **Section H: Subconsultants.**

Section J: AFFILIATES

In addition to owning 100% of the issued shares of URS Corporation – New York, URS CORPORATION (a Nevada corporation) **owns 100% (is the sole shareholder) of:**

Geotesting Services, Inc. (a California corporation)
(FEIN [redacted]) – owned from 10-14-85 to present

URS Construction Services, Inc. (a Florida corporation)
(FEIN [redacted] – owned from 12-14-99 to present

URS Corporation – Ohio (an Ohio corporation)
(FEIN [redacted] – owned from 1-15-02 to present

URS Corporation Great Lakes (a Michigan corporation)
(FEIN [redacted]) – owned from 1-15-02 to present

URS Greiner Woodward-Clyde Consultants, Inc. (a New York corporation)
(FEIN [redacted]) – owned from 9-11-96 to present

URS International, Inc. (a Delaware corporation)
(FEIN [redacted]) – owned from 4-15-91 to present

URS Architecture – Oregon, Inc. (an Oregon corporation)
(FEIN [redacted] – owned from 9-16-03 to present

URS Alaska, LLC (an Alaska limited liability company)
(FEIN [redacted] – owned from 3-21-08 to present

LopezGarcia Group, Inc. (a Texas corporation)
(FEIN [redacted] – owned from 8-22-08 to present)

Forerunner Corporation (Colorado corporation)
(FEIN [redacted] – owned Oct. 23, 2009 – present)

and owns:

33.33% of URS Architects/Engineers, Inc. (a New Jersey corporation)
(FEIN [redacted] – owned from 1-15-02 to present

33.33% of URS Corporation Services (a Pennsylvania corporation)
(FEIN [redacted] – owned from 12-28-01 to present

25% of URS Corporation AES (a Connecticut corporation)
(FEIN [redacted] – owned from 12-28-01 to present

60% of Advatech, LLC (a Delaware limited liability company)
(FEIN [redacted] – owned from 7-15-02 to present

Section K: CONTRACT EXCEPTIONS

URS Corporation – New York takes no exceptions to the form of contract and its terms and conditions.

Section L: CONFLICT OF INTEREST

Neither URS Corporation – New York, its employees, agents, nor its subcontractors have any known conflict of interest or appearance of conflict of interest that would adversely affect the work sought under RFP #19980. Should any such conflict be created or become known, URS Corporation – New York will promptly notify the Port Authority of New York and New Jersey.

AECOM Transportation

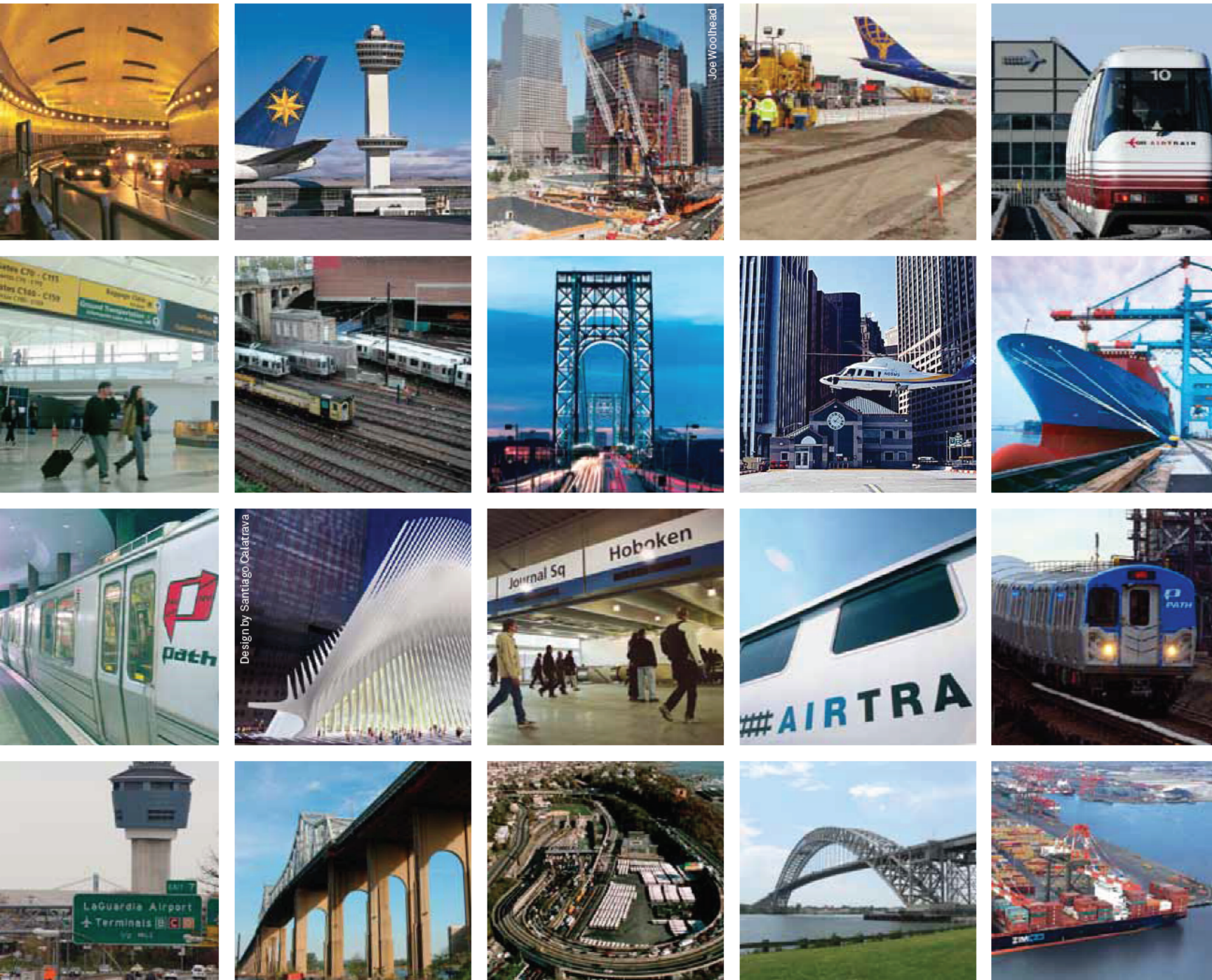
Proposal **October 21, 2010**

Submitted to
The Port Authority of
New York and New Jersey

Submitted by
AECOM USA, Inc.
In association with
Tishman Construction Corporation

Performance of Expert Professional Project Management Services as Requested on a "Call-In" Basis During 2011, 2012, 2013 and 2014

RFP No. 22388



AECOM
605 Third Avenue
New York, NY 10158
www.aecom.com

212.973.2900 tel
212.972.0682 fax

October 21, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010

Attention: RFP Custodian

Re: Performance for Expert Professional Program Management Services
As Requested On a "call-in" Basis During 2011, 2012, 2013, 2014, RFP No. 22388

Dear Sir/Madam:

AECOM USA, Inc. (AECOM) is pleased to submit our proposal in response to the subject request for proposal. **AECOM** is an industry leader locally, nationally and globally in the provision of program management services for large complex transportation projects, and we have provided Project and Program Management support services to the Port Authority of New York and New Jersey ("the Authority") on an extension of staff basis since the inception of this organizational business model in 1997. At present, we are providing Project Management and support staff under the third "Call-in" contract, which was issued in 2007.

The ongoing efforts of the Authority to invest in their facilities and infrastructure are critically important to the regional economy. AECOM has been a committed partner to the Authority in their efforts and we are delighted to be currently providing professional; project management and controls staff all of whom are assisting in implementing projects for the various Line Departments. We assure you that **AECOM** possesses the proven ability to continue providing quality Project and Program Management services as needed by the Authority for this next series of assignments. To provide continuity from our current services and for your anticipated future needs. **Mr. John Azzaro, PE,** who is well known to the Authority and served as our Program Coordinator previously, will serve as Officer in Charge under this engagement. Mr. Azzaro brings over 30 years of professional engineering and project management experience, much of it on Authority projects, including his new involvement with Terminal A Redevelopment at Newark Airport. John will provide oversight and continue to ensure that the full and most appropriate resources of AECOM are available to respond to any assignment and that the Authority's needs are being met.

Our contract and as requested "call-in" support services will be led by **Program Coordinator, Mr. Kevin Pierce, PE**, who has over 25 years of experience in project and program management for large-scale infrastructure projects, including ports and harbors, dredging and marine facilities, transportation infrastructure, commuter rail, freight rail, site developments and security programs. Mr. Pierce is very familiar with the Authority's business practices and has worked closely with Authority staff over the past 10 years in provision of as needed "call-in" engineering services for Newark Airport Redevelopment, the high profile Security Capital Program as well as the World Trade Center Vehicle Security Center and Global Container Terminal at Port Jersey. Mr. Pierce will provide the necessary coordination functions to administer the contract and coordinate the activities to deliver and support high quality Project Management candidates working closely with the Authority to deliver the Capital Plan.

AECOM's Project Managers have successfully delivered hundreds of projects under the leadership of the Authority's Program Managers to support the strategic objectives of the Authority. As an extension of staff, we fully embrace the Authority's recent organizational changes and have a clear understanding of the new project delivery model. Our current on-site team of eight Project Managers and Project Controls staff who are being proposed to continue their assignments have a full understanding of the reorganization and are ideally suited

to continue to support the Authority's efforts. AECOM's available Project Manager pool includes high quality individuals with experience in all types of transportation and infrastructure projects, including highways, bridges, tunnels, rail, transit, aviation, marine and other public facilities. Our extensive experience in program management makes us an effective partner to the Authority on many regional transportation capital programs. AECOM is providing program management services on numerous regional facilities and transportation programs including the Tappan Zee Bridge, Belt Parkway Bridges Replacement, Lincoln Center Redevelopment, Yankee Stadium and Delaware River Joint Toll Bridge Commission. The Authority will benefit from this experience - especially with regard to lessons learned, industry best practices, and through access to AECOM's network of program management experts.

Our Team is composed of local knowledgeable and experienced management professionals with a strong New Jersey/New York presence that are proven service providers to the Authority. AECOM USA, Inc. will act as the prime consultant, with the following subconsultant firms having extensive experience and capabilities in the planning, design and construction transportation facilities. Specifically, the AECOM Team is comprised of:

Tishman Construction – construction cost estimating, scheduling and constructability
Ellana, Inc. (WBE) – cost management and value engineering
G2 Project Planning – cost estimating, project scheduling and value management
Industria (MBE) – project management and document control
NIA Technologies Corporation (MBE) – cost control, document management and control

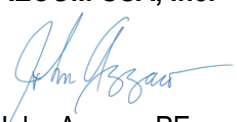
In short, the AECOM Team brings:

- **Technical knowledge and understanding** of all the Authority's facilities
- **Flexible staff resources** to manage complex projects
- **A depth of local NJ/NY-based talent** with extensive project management expertise **A national reputation** for program management excellence
- **A proven record of working closely with the Authority** on similar integrated project team assignments
- **Key personnel with directly relevant experience** and established Authority working relationships
- **Continuity of unmatched project and program management services**

Our team has been structured to provide the Authority with the full professional services necessary to provide program and project management services as defined in the RFP. We take pride in our success in having established a long working relationship on many of the Authority's significant programs. The Authority has always been, and will continue to be, our firm's top priority.

Please do not hesitate to contact me at ([redacted] if I may be of additional assistance. In the event that you wish us to make a presentation, please contact John Azzaro at [redacted] I can truly say we have the best experience, the best team, and the strongest desire to support you on this project. We have proven this over the last twelve years as we have assisted you in the design and construction process under this project management assignment.

Very truly yours,
AECOM USA, Inc.



John Azzaro, PE
Vice President

Table of Contents

Section A. Attachment B.....A-1

Section B. Attachment C.....B-1

Section C. Qualifications & Experience of Staff.....C-1

Section D. Relevant Experience.....D-1

Section E. Management Approach.....E-1

Section F. Hourly Rates & Multipliers.....F-1

Section G. M/WBE Participation.....G-1

Section H. Affiliates.....H-1

Section I. Conflict of Interest.....I-1

Section J. Contract Exceptions.....J-1

AECOM

Performance of Expert Professional Project Management Services as Requested on a "Call-In" Basis During 2011, 2012, 2013 and 2014
RFP No. 22388

Section A. Attachment B

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

AECOM USA, Inc.
Company

Signature

John Azzaro, PE, Vice President
Title

October 21, 2010
Date

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY. DO NOT RETYPE.

AECOM

Section B.
Attachment C

Performance of Expert Professional Project Management Services as Requested on a "Call-In" Basis During 2011, 2012, 2013 and 2014
RFP No. 22388

Section B. Attachment C

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014 (RFP #22388)

1. Company Name (print or type):

   AECOM USA, Inc.

2. Business Address (to receive mail for this RFP):

   605 Third Avenue

   New York, New York 10158

3. Business Telephone Number: 212.973.2900

4. Business Fax Number: 212.972.0682

5. Firm website: www.aecom.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 05 / 03 / 1980

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   See Section H Affiliates.

9. Officer or Principal of Firm and Title:

   John Azzaro, PE, Vice President

10. Name, telephone number, and email address of contact for questions:

    John Azzaro, PE, Vice President, 732.564.3304; email: John.Azzaro@AECOM.com

    Kevin Pierce, PE, Vice President, 917.647.3775; email: Kevin.Pierce@AECOM.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

AECOM

Performance of Expert Professional
Project Management Services
as Requested on a "Call-In" Basis
During 2011, 2012, 2013 and 2014
RFP No. 22388

Section C. Qualifications and Experience of Staff

Section C. Qualifications & Experience of Staff

AECOM has assembled a team of seasoned professionals that are highly proficient in the project management of rehabilitation and new construction of all types of transportation facilities and infrastructure. We have provided Project and Program Management support services to The Port Authority of New York and New Jersey (PANYNJ) on an extension of staff basis since the inception of this organizational business model in 1997. Over the course of the past 13 years, we have provided over 30 qualified project management candidates to the PANYNJ for multiple assignments. At present, we are providing Project Management and support staff under the third call-in contract awarded in 2007.

Serving as the Officer-in-Charge will be **Mr. John Azzaro, PE**, who brings over 30 years of professional engineering and project management experience with much of this experience on PANYNJ projects. He will ensure that the full and most appropriate resources of AECOM are available to respond to any assignment and that the PANYNJ's needs are met.

Mr. Kevin Pierce, PE, our proposed Program Coordinator, has significant experience in project management, civil engineering, and construction for large-scale projects, including ports and harbors, dredging and marine facilities, transportation infrastructure, commuter rail, freight rail, site developments and security programs. Among his extensive program management experience, Mr. Pierce's PANYNJ experience includes: New Jersey Airports Engineering Services on an "As-needed" Basis; Security Capital Program; and Global Container Terminal, Port Jersey and the World Trade Center Vehicle Security Center. As Project Coordinator, Mr. Pierce will act as liaison between the PANYNJ and the AECOM Team. Mr. Pierce is a well known and accomplished Project Manager and has delivered many complex, high quality projects for the PANYNJ under its capital programs as well as other major port and agency clients.

In support the strategic objectives of the PANYNJ, the AECOM Team Project Managers have successfully delivered hundreds of projects for the PANYNJ over the past 12 years under the leadership of the PANYNJ's Program Managers. As an extension of staff for the PANYNJ, we fully understand and have the first-hand in-depth knowledge of the PANYNJ's organization and its project delivery model. Our current on-site team of Project Managers and Project Controls staff are being proposed to continue their commitment to supporting the PANYNJ's project delivery needs. Our team consists of more than 40 well versed Project Managers. Due to the RFP page limit, we have highlighted the relevant project experience of key staff that are currently supporting the PANYNJ on-site or who have supported the PANYNJ in the past. Below are profiles of some of our Project Managers, followed by a Summary Matrix of project experience of all proposed staff. (** denotes their years of experience in the relevant field*)

Detailed resumes of our key peronnel are included in the end of this section.

Paul Giovanelli, PE, Project Manager			***37 yrs****
PANYNJ	Brooklyn Cruise Terminal Shore Power	$15M**	2010
PANYNJ	Port Street Capacity Improvements	$70M	2009-2010
PANYNJ	McLester Street Widening (Phase 4 – PE Roadway Improvement Program)	$20M	2007-2010
PANYNJ	North Ave/McLester Street Curve Realignment (Phase 3 – PE Roadway Improvement Program)	$15M	2006-2010
PANYNJ	ExpressRail Second Lead Track and South Bay Ave	$20M	2003-2009
Edward Hammond, PE, Project Manager			***34 yrs***
PANYNJ	LGA Rehab of CTB Air Handler Units	$4.4M	2008-2010
PANYNJ	LGA Upgrade HVAC in CTB East	$1.4M	2009-2010
PANYNJ	LGA Rehab of Sanitary Ejector Pits at CTB	$8.4M	2008-2010
PANYNJ	LGA Upgrade HVAC for Hangar 7 Maintenance	$2.4M	2008-2010

**M=Million; B=Billion

Paul Adams, PE, Project Manager			30 yrs
PANYNJ/ PATH	PATH Tunnels E & F Interior Strengthening	$60M	2007-2010
PANYNJ	Security Capital Program Livelink Development & Support	n/a	2004-2007
Jerry Allerdings, PE Project Manager			**30 yrs**
PANYNJ	EWR Fire Alarm Upgrade		2009-2010
PANYNJ	EWR Rehab of Satellite B3 Feeders & Switchgear	$2.55M	2009-2010
PANYNJ	EWR Replacement of Hot Water System Pumps	$11.5M	2009-2010
PANYNJ	EWR Rehabilitation of Switch House No. 2	$2.8M	2008-2010
Pascack Valley Hospital	New Ambulatory Services Wing	$28M	2005-2008
Fredrick Eilinger, Jr., PE, Project Manager			**32 yrs**
PANYNJ	EWR Terminal B Fire Alarm Upgrade and Replacement	$1.95M	2009-2010
PANYNJ	EWR Terminal B Rehab. of Mechanical and Electrical Systems	$11M	2010-2012
PANYNJ	Upgrade of Electrical infrastructure for Runway Switch House #2	$2.8M	2008-2010
PANYNJ	Lincoln Tunnel Ventilation Bldgs Structural Rehab.	$1.5M	2003-2006
PANYNJ	Upgrade of Fire Sprinkler System for Lincoln Tunnel	$2M	2003-2006
PANYNJ	Lincoln Tunnel Traffic Control Center	$2M	2003-2006
PANYNJ	Lincoln Tunnel/PABT Automated Traffic Advisory Signage System	$1.5M	2003-2006
L. David Conger, PE, Project Manager			**19 yrs**
PANYNJ	JFK 13R-31L "Bay Runway" Reconstruction and Rehabilitation	$348M	2008-2010
NJ TRANSIT	Access to the Region's Core Mass Transit Tunnel	$8.7B	2007-2009
PANYNJ	JetBlue Airways, Terminal 5 Airside Improvements	$700M	2005-2008
NY Mets	Citifield Stadium (site and utilities)	$600	2005-2008

Indhira A. Figuereo, Project Manager			11 yrs
American Airlines	Terminal 8 Reconstruction	$1.4B	2007-2009
Lincoln Center	Lincoln Center Harmony Atrium Revitalization	$15M	2005-2010
The City of Glen Cove	Ferry Terminal Water Borne and Site Improvements	$15M	2008-2009
USACE	West Point DOL Motor Pool Relocation	$50M	2007-2008
LAJH	UN Libya Mission Bldg. Renovation	$48B	2007-2012
Mike Garbolski, PE, Project Manager			***29 yrs***
PANYNJ	WTC VSC and Tour Bus Parking Facility	$TBD	2009-1010
PANYNJ	EWR Terminal B Bollard Protection	$6.8M	2007-2009
PANYNJ	Perimeter Strengthening, LaGuardia, JFK and EWR Airports	$25M	2007-2009
PANYNJ	Port Ivory ExpressRail	$27M	2003-2007
Kenneth Bobetsky, PE, Project Manager			**28 yrs**
PANYNJ	AirTrain Program	$1.9B	1998-2003
PANYNJ	New York Airport Access Program	$400M	2007-2009
FTA	South Ferry Terminal Station, PM Oversight	$500M	2007-2009
FTA	Fulton Street Transit Center	$1.4B	2007
George Greenberg, PE, Project Scheduling			**38 yrs**
PANYNJ	JFK 13R-31L "Bay Runway" Reconstruction and Rehabilitation	$348M	2007-2010
PANYNJ	JFK Schedule for Replacement of the Bay Runway	$348M	2007-2008
PANYNJ	EWR - Airside Master Program Schedules	$500	2007-2008
PANYNJ	EWR – Terminal B Construction Projects Schedule Updates	$150	2007-2008
PANYNJ	EWR – Terminal B Mid and Upper Levels	$40M	2007-2008
PANYNJ	LGA Airside Paving Project	$50M	2007-2008

Borys Kekish, PE, Project Manager			*35 yrs*
PANYNJ	Delta JFK Redevelopment Program, Terminal 4 Headhouse Expansion and Renovation	$350M	2010
PANYNJ	Various JFK projects: Substation Upgrade; Airport Fueling System Upgrade; Roadway Rehab; Security Improvement; Parking Garage Elevators/Canopy; EMAS; Traffic Safety Improvements; Emergency Airline Feuling Shut Down, etc.	$250M	1998-2010
PANYNJ	LGA Projects: 102 St. Bridge Water Main; New Airport Roadway/ Pedestrian Signing; CTB Concourse Modernization; Runway Deck Protection/ Preservation, etc.	$50M	1998-2003
Mark Linkowski, PE, Project Manager			*14 yrs*
PANYNJ	JFK 13R-31L "Bay Runway" Reconstruction and Rehabilitation	$348M	2008-2010
Lou Rondinello, PE, Project Manager			*25 yrs*
PANYNJ	Perimeter Strengthening, LaGuardia, JFK and EWR Airports	$25M	2007
PANYNJ	JFK Guard Post Hardening	$10M	2005-2008
PANYNJ	EWR Guard Post Hardening	$10M	2003-2007
PANYNJ	JFK, LGA, EWR Perimeter Intrusion Detection System (PIDS) Planning	$120M	2004-2011
PANYNJ	JFK & LGA Security Buoys and Piles	$1M	2002-2005
PANYNJ	EWR Pipe Gallery Security Fence	$5M	2003-2004
PANYNJ	EWR South Fuel Farm Security Fence	$2M	2003-2004
Gerald Alston, Project Support			*13 yrs*
PANYNJ/ PATH	PATH Tunnels E & F Interior Strengthening	$60M	2007-2010
PANYNJ	Security Capital Program Livelink Development & Support	n/a	2004-2007

Frank Grande, PE, Project Manager			*34 yrs*
NYSDOT	Tappan Zee Bridge	$16B	2002-2012
NYSDOT	LIE Rehabilitation	$135M	2001-2005
WVDOT	Shawnee Highway	$12M	2003-2008
Elizabeth Marcantonio, PE, Project Engineer			*8 yrs*
DSNY	CSS DSNY Marine Transfer Stations	$950M	2010
NYSDOT	Program Management for Route 9A Reconstruction	$250M	2006
PANYNJ	West Midtown Redevelopment	$500M	2008
PANYNJ	Vehicular Security Center	$500M	2007-2008
NYSDOT	Tappan Zee Bridge	$16B	2004t-2012
William Meister, PE, Project Engineer			*28 yrs*
PANYNJ	Holland Tunnel Catwalk & Handrail Rehabilitation	$13M	1988
PANYNJ	Harrison PATH Station Platform Extension	$6M	1987
PANYNJ	George Washington Bridge Tower	$11M	1986
Alexander (Sandy) Murphy, PE, Project Manager			*28 yrs*
NYSDOT	Undercliff Avenue Bridge Design and Construction Support Services	$13.2M	2004-2010
NYSDOT	Route 9A Reconstruction	$12M	2006-2010
NYSDOT	East River Park Construction Support	$60M	2006-2010
PANYNJ	LGA Terminal Building Expansion	$50M	1988
Donald Quast, PE, Project Manager			*26 yrs*
PANYNJ	JFK 13R-31L "Bay Runway" Reconstruction and Rehabilitation	$348M	2008-2010
American Airlines	Airside Construction	$65M	2005-2008
American Airlines	Landside Construction	$50M	2005-2008

Summary of Key Personnel Project Experience

Name	Project Role	Project/ Program Mgmt		Marine		Aviation		Tunnels		Bridges		Terminals		Rail	
		# of projects	Project Costs	# of projects	Project Costs	# of projects	Project Costs	# of projects	Project Costs	# of projects	Project Costs	# of projects	Project Costs	# of projects	Project Costs
AECOM															
Azzaro, John, PE	Officer-in-Charge	10	$2.7	2	$45M	3	$55M	n/a	n/a	6	$48M	2	$38M	2	$5M
Pierce, Kevin, PE	Program Coordinator	15+	$2B+	6	$500M+	6	$500M+	n/a	n/a	n/a	n/a	2	$500M	5	$500+
Niro, Achille, PE	QA/QC	11	$21.5B	2	$800M	2	$3.3B	3	$750M	1	$16B	1	$500M	2	$600M
Adams, Paul, PE	Project Manager	58	$1B	4	$20 M	4	$100 M	2	$80 M	40	$400 M	4	$300M	4	$100M
Allerdings, Jerry, PE	Project Manager	n/a	n/a	n/a		22	$40M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Alston, Gerald	Project Manager	58	$1B	4	$20 M	4	$100 M	2	$80 M	40	$400 M	4	$300M	4	$100M
Chong, Sue Anne	Project Manager	9	$45M	n/a	n/a	2	$5M	n/a	n/a	n/a	n/a	1	$1.4B	n/a	n/a
Bobetsky, Kenneth, PE	Project Manager	100+	$1B+	3	$25M	100	$750M	n/a	n/a	4	$160M	1	$400M	3	$50M
Benosky, Christopher, PE	Water Resources Engr.	88	$500M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chu, Francis, PE	Project Manager	6	$3B+	n/a	n/a	4	$2.8B	1	$8.7B	n/a	n/a	1	$2.4B	n/a	n/a
Conger, Dave, PE	Project Manager	1	$348M	n/a	n/a	1	$348M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Eilinger, Fred, PE	Project Manager	32	$160M	n/a	n/a	12	$92M	19	$64M	n/a	n/a	1	$5M	n/a	n/a
Figuereo, Indhira	Project Engineer	1	$3M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	$3M
Garbolski, Michael, PE	Project Manager	46	$124M	20	$26M	20	$33M	n/a	n/a	n/a	n/a	4	$15M	2	$50M
Giovanelli, Paul, PE	On-Site Coordinator	37	$755M	2	$15M	n/a	n/a	3	80M	n/a	n/a	1	$70M	12	$280M
Grande, Frank, PE	Project Manager	17	$140M	3	$25M	n/a	n/a	n/a	n/a	7	$105M	n/a	n/a	n/a	n/a
Greenberg, George, PE	Project Scheduler	8	$1B+	n/a	n/a	7	$500M	n/a	n/a	n/a	n/a	1	$500M	n/a	n/a
Hammon, Edward, PE	Project Manager	11	$55M	n/a	n/a	11	$55M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hand, Joe, AIA	Project Manager	2	$400M	1	$4M	n/a	n/a	n/a	n/a	n/a	n/a	1	$2.2B	3	$30M
Hapkiewicz, John, PE	Project Manager	3	$25M	n/a	n/a	n/a	n/a	n/a	n/a	1	$15M	n/a	n/a	n/a	n/a
Kekish, Borys, PE	Project Manager	34	$1B+	n/a	n/a	34	$1B+	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lai, Chee, PE	PM, DM, Lead Structural Engr.	21	$1B+	3	$510M	3	$2M	1	$5M	11	$850M	1	$45M	2	$3B
Lavallee, Andrew, RLA	Sr. RLA/Project Manager	24	$349M	2	$125M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Linkowski, Mark,EIT	Project Manager	4	$376M	n/a	n/a	4	$376M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marcantonio, Elizabeth, PE	Project Engineer	2	$8Bill	1	n/a	n/a	n/a	n/a	n/a	4	$160M	n/a	n/a	n/a	n/a
Matarazzo, Joe, PE	Project Manager	1	$70M	1	$4M	n/a	n/a	2	800M	9	$150M	n/a	n/a	n/a	n/a
Mazumdar, Azim, PE	Project Manager	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Meister, William, PE	Project Manager	22	$265 M	n/a	n/a	2	$22M	2	110 M	45	$316M	3	$110 M	9	$52M
Minkley, Mark, RLA	Sr, RLA/Project Manager	27	$350M	n/a	n/a	n/a	n/a	n/a	n/a	1	$3M	n/a	n/a	n/a	n/a
Murphy, A. (Sandy), PE	Project Manager	18	$171M	1	$60	4	$63	2	20	9	$196	6	$25M	n/a	n/a
Parnes, Jerry, PE	Project Manager	3	$16B+	n/a	n/a	1	$1B+	n/a	n/a	n/a	n/a	1	$3.2B+	n/a	n/a
Peraza, Ana, PE	Project Manager	1	$250M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	$250M	n/a	n/a
Quaranta, Thomas	Project Manager	2	$1B+	3	$40M	1	$200M	n/a	n/a	4	$350M	n/a	n/a	4	$225M
Quast, Donald, PE	Project Manager	2	$362M	n/a	n/a	2	$362M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Rondinello, Lou, PE	Project Manager	22	$550M	n/a	n/a	20	$500M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Rosciglione, Antonio, PE	Project Manager	14	$6B+	n/a	n/a	1	$1.4B	n/a	n/a	n/a	n/a	n/a	n/a	1	$4.6B
Schneidt, Len, PE	Project Manager	14	$1B+	n/a	n/a	n/a	n/a	1	$4M	9	$725M	n/a	n/a	2	$175M
VanSickels, James, PE	Project Manager	n/a		n/a	n/a	3	$3M	n/a	n/a	n/a	n/a	2	$1.5M	n/a	n/a
Woo, Tom, PE	Project Manager	3	$3B+	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	$3B
Zhao, Shaoling, PE	Project Manager	22	$2.B+	n/a	n/a	3	$40M	n/a	n/a	20	$2.25B	n/a	n/a	1	$75M
Tishman Construction															
Calabrese, Jennifer	Estimator (In-house)	1	$270M	1	$100M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DaCruz, Rosana	Estimator (In-house)	n/a	n/a	1	$20M	1	$14M	n/a	n/a	1	$16M	n/a	n/a	1	$23 M
Rodriguez, Frank	Project Manager	n/a	n/a	n/a	n/a	6	$150M	n/a	n/a	n/a	n/a	1	$15M	n/a	n/a
Schmitt, Gary	Project Manager	n/a	n/a	n/a	n/a	2	$40M	n/a	n/a	n/a	n/a	1	$663M	n/a	n/a
Seliga, Chris	Scheduling (In-house)	5	$500M	3	$50B	10	$300M	1	$7B	n/a	n/a	3	$1B	3	$180M
Ellana, Inc.															
Ahuja, Rohit	Scheduler	3	$500M	n/a	n/a	4	$1B	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chin, Henry	Sr. Project Cost Mgr.	6	$2.7B	1	$100 M	12	$3 B	n/a	n/a	2	$25M			1	$300M
Fitzer, Walter	Chief MEP Estimator	6	$2B	n/a	n/a	1	$500 M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
G2 Project Planning															
Glavasich, Christine	Sr. Cost Estimator/Mgr	n/a	n/a	n/a	n/a	2	$150M	1	$16B	n/a	n/a	1	$60	15	$200M
Harlow, Brett	Sr. Cost Estimator	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	12	$100M
Mainella, Michael	Sr. Cost Estimator	n/a	n/a	n/a	n/a	2	$250M	1	$100M	1	$20M	2	$120	20	$300M
Industria															
Collins, Christine	Assistant Project Manager	3	$55 M	n/a	n/a	2	$125M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Daniels, Sheketa	Sr. Administrative Assistant	3	$2 B	n/a	n/a	3	$500M	n/a	n/a	n/a	n/a	3	$100M	n/a	n/a
Madonia, Joseph	Sr. Project Manager	4	$3.5 B	2	$3M	n/a	n/a	n/a	n/a	1	$3M	n/a	n/a	n/a	n/a
Quinn, Sharon	Project Manager	1	$400 M	n/a	n/a	6	$1.6B	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Wittrock, Kathleen	Sr. Administrative Assistant	2	$250 M	n/a	n/a	5	$350M	n/a	n/a	1	$35M	1	$500M	1	$75M
NIA Technologies Corporation															
Fox, Linda	APM/Expedition Specialist	22	$18M	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fraser, Desiree	Contract Mgr/Expedition	12	$28.2M	n/a	n/a	n/a	n/a	3	$4.5M	3	$5.2M	3	$8.5M	3	$10M
Smith, Jim	APM/Project Coordinator	12	$21.6M	n/a	n/a	n/a	n/a	3	$7.2M	3	$2.4M	n/a	n/a	n/a	n/a

Resumes of Key Personnel
AECOM

John Azzaro, PE

Project Role: Officer-in-Charge

Education

BE, Civil Engineering, Stevens Institute of Technology, New Jersey, 1980

Registrations

PE: NJ, 1987, Registration No.: [redacted]

Professional Associations

American Society of Civil Engineers (ASCE)

American Society of Highway Engineers (ASHE)

Society of American Military Engineers (SAME)

Experience

Years with AECOM: 25
Years with other firms: 5

Employment History

1985-present: AECOM, Civil Project Manager/General Operations Manager

1980-1985: Stone & Webster Engineering Corp.

Mr. Azzaro has more than 30 years of experience in design, management and construction for both civil and structural disciplines. His areas of expertise include highway planning and design, construction staging and maintenance of traffic, airport planning, design and construction, infrastructure design and construction, site development and parking facility planning, design and construction. He has worked with clients in both the private and public sectors and has a good understanding of client needs, having functioned as a client himself.

EWR Terminal B Roadway and Drainage Improvements, Port Authority of New York and New Jersey (PANYNJ), Newark International Airport, New Jersey: Assigned to the PANYNJ to serve as the project manager responsible for this contract valued at $35 million (construction cost). The contract provided for relocation of the existing HOV lanes to a new 24-foot-wide frontage, with steel and glass canopies designed to match the facilities already in place. The existing frontage will be used for passenger pickup, and the inner frontage will be used for overflow. The project also required construction of five new traffic lanes: two for HOV use, two through-lanes, and one taxi lane. The northbound steel bridge was widened with a one-lane structure. This entailed salvaging the existing precast fascia panels for reuse; constructing at-grade asphalt pavement and ramps; and building approximately 2,000 feet of concrete retaining walls. Bridge N7 (a steel plate girder bridge) was rebuilt through staged removal and replacement with a new structure, while maintaining two lanes of traffic at all times. The underpass was reconstructed and widened to two lanes. The high-mast light towers were relocated; new overhead and ground-mounted sign structures were installed; and some existing signs were relocated. Power and communications systems were also installed, along with hardscape, fencing, and frontage amenities (such as stainless steel bus shelters and taxi dispatch booths). Parking lot entrances were reconstructed as well. The project also required construction of three stormwater pump stations, each containing three pumps and new 30-inch and 36-inch steel force main piping that was tied into an abandoned 36-inch piping and outfall system.

EWR Airfield Lighting Electrical Switch Houses, Port Authority of New York and New Jersey (PANYNJ), Newark, New Jersey: Project manager responsible for the design and construction of two electrical switch houses at Newark Liberty International Airport at a construction cost of approximately $30 million. Scope of work at each of the two locations consisted of building a 95-foot-long by 60-foot-wide steel framed structure with interior block walls and exterior

John Azzaro, PE, continued

precast concrete panels. These buildings house a power substation that feeds constant current regulators and distributes power to airfield lighting circuits associated with runways and taxiways, FAA equipment, and building system loads. A separate switch house is dedicated to each Runway; 4L-22R and 4R-22L. An existing switch house will be refurbished in the future and is dedicated to Runway 11-29. Electrical and communication ductbanks were constructed airside for the new feeder cables. A 1,000 kw emergency diesel generator in each building will supply 100 percent backup power to the two incoming PSE&G 13 kV feeders. The building includes a control room that houses the ALCS equipment, a SCADA system to monitor all electrical equipment, and a building management system to monitor all mechanical and HVAC equipment.

EWR Central Terminal Area Roadways, Bridge, and Parking Plazas, Port Authority of New York and New Jersey (PANYNJ), Newark International Airport, New Jersey: Project manager assigned to the PANYNJ, responsible for this contract valued at $52 million construction cost. It included construction of a new steel bridge with retaining walls and ramps; on-grade CTA and frontage roadways at terminals A and B; four parking entry and three parking exit plazas; 1,200 feet of steel and glass canopies at terminals A and B; signage, sign structures, and utilities. Entry and exit plaza work included overhead canopy structures, stainless steel toll booths, ticket issuing machines, revenue control system equipment, as well as EZPASS Plus equipment.

EWR Southern Access Roadway Project (SARP), Port Authority of New York and New Jersey (PANYNJ), Newark International Airport, New Jersey: Project manager assigned to the PANYNJ, responsible for the $189 million SARP Program. It consisted of three major roadway and bridge construction contracts, which included five new steel bridges (1 curved welded-plate girder bridge with steel box transfer girder and 1 new concrete bridge, and the widening and rehabilitation of five existing steel and concrete bridges) for a combined construction cost of $106 million. Duties include the planning, design, and construction phases of this program. The team consisted of a composite staff of PA in-house disciplines, consultants, and subconsultants. The projects involved coordination with the NJTA for the tie-in to interchange 13A; as well as with the NJDOT. Responsible the design of the McClellan Street interchange, consisting of mainline roadways, ramps, retaining walls, and the staged replacement of a steel bridge for NJDOT over the Route 1/9 corridor. Obtained the required right-of-way parcels, freshwater wetlands fill permits, stream encroachment permits, and soil conservation and sediment control permits from two districts. Coordinated with the NJTA, NJDOT, and Union County for the proposed North Avenue corridor improvements, as well as the on-airport section of the future NERL-Elizabeth segment, a design-build public/private partnership project.

JFK Redevelopment Program, Port Authority of New York and New Jersey (PANYNJ), Jamaica, New York: Project manager assigned to the PANYNJ on its $1.8 billion redevelopment program for John F. Kennedy International Airport. Worked as the owner's representative with duties including planning for the central terminal area roadway, utility, parking and frontage improvements. Coordinated between facility staff aviation department and engineering department, managed a multi-million dollar field verification program for underground utilities, managed the design contracts which were bid for construction to assure proper technical content, constructibility and maintenance of airport operations. During construction, oversaw the construction management effort for control of costs, compliance with contract documents, construction staging, control of change orders, and airport operations.

JFK 2000 Master Functional Plan, Port Authority of New York and New Jersey (PANYNJ), New York: As civil engineer, prepared layout and conceptual engineering plans for remote, long-term parking facilities at JFK, part of the $3 billion renovation of the world's busiest international airport. The long-term parking facilities were located at the Howard Beach connection and included provisions for stations along the passenger distribution system, which will carry passengers to the central terminal area.

Kevin Pierce, PE

Project Role: Program Coordinator

Education

MS, Civil Engineering, Rutgers, the State University of New Jersey, 1991

BS, Civil Engineering, Old Dominion University, Norfolk, VA, 1988

Registrations

PE: WA, 1999, Registration No.: [redacted] (Civil)

PE: CA, 1993, Registration No.: [redacted] (Civil)

Professional Associations

American Society of Civil Engineers (ASCE)

American Council of Engineering Companies of California (ACEC-CA), formerly Civil

Engineers and Land Surveyors of California (CELSOC)

Construction Specifications Institute (CSI)

Western Dredging Association (WEDA)

Experience

Years with AECOM: 23
Years with other firms: 2

Employment History

1988-present: AECOM, Project Director/Program Manager

1985-1986: Virginia Port Authority, VA

1986-1987: R.G. Mooreland Development Co.

Mr. Pierce has 25 years of experience in project management, civil engineering, and construction for large-scale projects, including ports and harbors, dredging and marine facilities, transportation infrastructure, commuter rail, freight rail, site developments and security programs. His experience includes numerous project management positions for design and implementation of capital projects with budgets up to $750 million. After working for a public port authority and private land developer, Mr. Pierce has serviced public and private clients while with AECOM, including transit agencies, private railroads, port agencies, and the U.S. Navy on both the east and west coasts of the United Sates. Over the past 10 years, he has managed over $100 million on consultant contracts for over $2 billion in capital construction projects.

Capital Security Program, Port Authority of New York and New Jersey (PANYNJ), New York and New Jersey: Program Manager for $15 million contract for implementing highly sensitive and confidential security capital projects at all major port authority facilities including airports, seaports, tunnel and bridges, authority bus terminal, and PATH. Initially, the program was funded at $500 million for the years 2003 to 2007, but it is anticipated that the program funding levels will eventually exceed $1 billion. Mr. Pierce provided management and oversight of all work, including development of project approaches, scope, procurement strategies, preparation of design and contract documents, cost estimates, and construction support services.

World Trade Center Vehicle Security Center, PANYNJ: AECOM Project Director for concept through final design for complex vehicle screening and parking facilities. Work includes concept through final design over $800 Million in capital construction as part of the WTC redevelopment. Work includes slurry walls, excavation, structural and concrete design, HVAC, communications, screening equipment and highly sensitive design criteria. Construction is scheduled for completion in early 2013.

New Jersey Airports Engineering Services on an "As Needed Basis, Port Authority of New York and New Jersey (PANYNJ), New Jersey: Program Manager for $10 million professional services contract to provide engineering services in support of facility capital projects at Newark Liberty International Airport and Teterboro Airport in New Jersey. Responsible for the overall task program management in response to PANYNJ request for stage I through stage IV services for a variety of civil infrastructure and facility improvements. Project capital costs ranged from several hundred thousand dollars up to $3.5 million. Over 50 separate projects have been assigned, including a new stockroom

Kevin Pierce, PE, continued

building, terminal B control center, CTA frontage roadway rehabilitation, and various terminal facility modifications and improvements.

Sounder Commuter Rail Project, Burlington Northern Santa Fe Railroad (BNSF), Tacoma to Seattle, Washington: Project Director for advanced planning through final design for commuter rail improvements in the BNSF freight corridor between Seattle and Tacoma. Total design budget was $3.5 million. The project consisted of adding a third and forth track, and relocations/reconfiguration of existing yards, freight leads, and facilities in the 50-mile corridor between milepost 10 north of Seattle and milepost 40X in Tacoma. Total capital cost was over $350 million. Services included track and ROW design, grade crossings, new railroad bridges, modifications of overhead bridges retaining walls, property acquisition, utility relocations, and track design to accommodate proposed commuter rail stations.

Global Container Terminal, Port Jersey, New Jersey: Project Director and officer in charge for master planning, security planning, and design consultation services for the Port Jersey Container Terminal. Services included terminal throughput analysis, terminal layout and planning, transportation planning, capital program development, and cost forecasting for phased capital improvements, including new permitting, design, and procurement documents, and construction oversight services for this $25 million wharf extension. Successful in obtaining federal funds for the execution of a comprehensive vulnerability assessment for the only privately owned and operated container terminal in New York Harbor.

Metrolink Commuter Rail Project, Phases I and II, Southern California Regional Rail Authority (SCRRA), Los Angeles, California: Task Manager and design engineer for a new commuter rail system in Southern California. Provided project engineering, and coordination and development of new technical and procurement specifications for SCRRA (who had no standard procurement or construction specifications). Completed bid packages for the initial three capital project construction contracts totaling over $100 million. The project included over 60 miles of new and rehabilitated railroad, new bridges, retaining walls, signal systems, grade crossings culvert and drainage improvements, and other miscellaneous ROW improvements.

Pier 400, Port of Los Angeles (POLA), San Pedro, California: Project Manager responsible for geotechnical concept through final design for a 22 million-cubic-yard hydraulic dredging and landfill project to create 528 acres of manmade land in the Port of Los Angeles. This is the largest single land reclamation project in the United States. The project included extensive retaining structures and foundation remediation studies. The total project was over $300 million for phases I and II.

Oceanside Escondido Rail Line, San Diego County, California: Deputy Project Manager in charge of all design work for the advanced planning scope of work. The project was divided into 14 tasks totaling over $3.5 million in fees. The project capital estimate was $250 million.

Pier T, Port of Long Beach (POLB), Long Beach California: Project Manager for the design of dredging and disposal to provide deep draft navigation improvements at the proposed container terminal in the West Basin of the Port of Long Beach. Dredging was carried out to -50 feet MLLW at the turning basin and approach channel; the berths were dredged to minus 55 feet MLLW; the shoreline was dredged to minus 59 feet MLLW to construct a new rock revetment and container wharf. Construction cost for the project was $70 million.

Channel Dredging at Naval Air Station North Island, Naval Facilities Engineering Command (NAVFAC) Southwest Division, MCON P-706, NAVFAC, San Diego, California: Project Manager for dredging 10 million cubic yards to provide a deep draft approach and navigation channel into NAS North Island for nuclear class aircraft carriers. The total project budget was $50 million and included design and permitting for near shore and on-shore disposal of beach suitable materials. Coordinated all aspects of dredge and disposal design, including hydrographic surveys, geotechnical investigations, cost estimating, permitting support, and preparation of PS&Es.

Achille Niro, PE

Project Role: QA/QC

Education

BS, Civil Engineering, New Jersey Institute of Technology, 1971

Registrations

PE: NJ, Registration No.: 2[redacted]

PE: NY, 1976, Registration No.: [redacted]

Professional Associations

Project Management Institute (PMI)

National Society of Professional Engineers (NSPE)

New Jersey Society of Professional Engineers (NJSPE)

Society of American Military Engineers (SAME)

Construction Institute (CI) of ASCE

Experience

Years with AECOM: 5
Years with other firms: 34

Employment History

2005-present: AECOM, Civil Program Manager

1971-2005: Port Authority of New York and New Jersey, New York

Mr. Niro is a highly accomplished engineer, having extensive experience in design and construction with an emphasis on program management and construction management. He was formerly the assistant chief engineer for program management at the Port Authority of New York and New Jersey, where he was responsible for the delivery of the agency's capital and operating programs from preliminary design through construction completion. In this capacity he implemented a number of key programs to efficiently manage the cost and organization of the agency's programs.

O'Hare Modernization Program, City of Chicago, Illinois: As the transition program manager for the O'Hare Modernization Program (OMP), maintained continuous program and project management services for the city, while restructuring the program management team. Responsibilities included managing the client relationship with senior executives from the city; providing guidance and oversight to a team of 40 professional and technical staff; and ensuring coordination and advancement of program activities with the construction management and multiple engineering design firms.

Tappan Zee Bridge/I-287 Corridor Environmental Review Project, New York State Thruway Authority (NYSTA), Orange, Rockland, and Westchester, New York: As the program manager for the project sponsors, which included the NYSDOT, NYSTA, and MTA Metro-North Railroad, served in the lead role for the management and oversight of the consultant team performing the public outreach, the environmental planning and analysis, and the preliminary engineering. Responsibilities included the coordination of activities between the project team and agencies at the federal and state levels; the development and implementation of a comprehensive public outreach strategy; navigating the DEIS process to consensus on a locally preferred alternative, and attainment of a successful "record of decision;" development of a sound project financial plan, including new and nontraditional funding sources; and the implementation of an effective procurement strategy that manages risks, phases construction, and has construction industry support.

Lincoln Center Development Program, Lincoln Center Development Project, Inc., New York, New York: Developed construction phasing and logistics plans for the expansion and modernization program of the multiple cultural venues at Lincoln Center.

Main Line Corridor Improvement Project Environmental Impact Statement, Long Island Rail Road (LIRR), Nassau County, New York: Program manager for

Achille Niro, PE, continued

the development and preparation of the EIS for the main line corridor improvements that included modifications and additions of bridges, station enhancements, signal bridges, substations, signal towers, trackwork, power, and communications and signals. The project also includes separation or closure of five roadway at-grade crossings. Responsibilities included managing client relationships on multiple levels; directing the activities of the project team; providing strategic advise to the client on public and agency outreach activities; and meeting project goals and objectives with high quality work products that will lead to a successful "record of decision" from the FTA. Port Authority of New York and New Jersey: Assistant chief engineer of program management responsible for the delivery of the agency's capital and operating programs from preliminary design through construction completion. This included the management of planning, A/E design, and construction management services, as well as program definition, budgeting, forecasting, and procurement of professional A/E and construction services. Directly supervised a staff of 170 professional, technical, and administrative personnel. Managed an annual budget of approximately $70 million, including outsourcing of engineering, architectural and technical services, and the procurement and award of over 100 construction contracts per year with an average annual value of $500 million.

John F. Kennedy International Airport (JFK) and Newark International Airport (EWR) Access Programs: Engineering program manager for the planning and preliminary design of the JFK Airport Access Program (AirTrain) and the extension of the EWR AirTrain extension to the Northeast Corridor (NJ Transit and Amtrak). Responsibilities included ridership analysis, environmental planning, alignment design, geotechnical/environmental investigations, preliminary design, oversight of the community and airline outreach program, contract negotiations, and construction phase oversight.

JFK Redevelopment Program: Program manager of design and engineering involved in key elements of the redevelopment program including the air traffic control tower, roadway and utilities, baggage handling system, pedestrian distribution system, Terminal 4, and the JFK cogeneration facility. Responsibilities included preliminary and final design, environmental mitigation, procurement of construction, and construction phase support and oversight.

Goethals Bridge Twinning Program: Manager of design for the planning, environmental impact assessment, and preliminary design for the construction of an additional span parallel to the Goethals Bridge as well as the rehabilitation of the existing bridge, Responsibilities included preliminary design, design development, geotechnical/ environmental investigations, wetlands and hazardous waste mitigation, coordination with other public agencies, and development of procurement strategies.

Port Authority of New York and New Jersey, Tenant Construction Unit: As unit manager, led organizational and process changes for the Port Authority's in-house building department, which was responsible for the review and approval of all tenant construction on Port Authority facilities. Improved the on-time performance of the plan review process from approximately 30 percent to over 90 percent without increasing staff. Performed approximately 1,000 plan reviews annually with an estimated value over $1 billion.

PATH Station Improvements Program: Project manager for the redevelopment and upgrade of stations throughout the PATH network. Responsibilities included preliminary design, final design, procurement and award of construction contracts, and construction phase support services.

JFK, EWR, LGA Aviation Programs: Project manager responsible for various projects at the airports ranging from aeronautical paving to new buildings and alterations, environmental remediation, and roadway and bridge projects.

Paul Adams, PE

Project Role: Project Manager

Education

MS, Structural Engineering, University of California at Berkeley, 1976

BS, Civil Engineering (with honors), University of California at Berkeley, 1975

Registrations

- PE: NJ, 1991, Registration No.: [redacted]
- PE: CA, 1979, Registration No.: [redacted] (Civil)
- PE: NY, 1991, Registration No. [redacted]
- PE: PA, 1990, Registration No.: [redacted]
- PE: CT, 1992, Registration No.: [redacted] (Civil) -
- PE: FL, 1992, Registration No.: [redacted] (Civil)

Professional Associations

American Society of Civil Engineers (ASCE)

Urban and Regional Information Systems Association (URISA)

Society of American Value Engineers (SAVE)
New York Building Congress (NYBC)

American Society for Industrial Security (ASIS)

Experience

Years with AECOM: 14
Years with other firms: 23

Employment History

1996-present: AECOM Transportation

Mr. Adams has extensive experience in the fields of transportation engineering design, project management, technology management, data security, and construction management. Mr. Adams has served as Resident Engineer, Construction Manager, Project Manager, Structural Department Manager and Division Manager for transportation authorities and consulting firms and as Technology Director, Program Technology Manager, and Officer in Charge on numerous multidiscipline transportation projects.

Port Authority of New York and New Jersey (PANYNJ), Security Capital Program, New York, and New Jersey: On assignment with PANYNJ as the project manager for PATH tunnel strengthening program, responsible for developing the budgets and schedules for these efforts. Instrumental in obtaining board approval to proceed with this $800 million effort. Also Responsible for developing the budgets and schedules for these efforts and was instrumental in obtaining Board approval to proceed with this $800 million effort. He progressed the project through final design, completion of a pilot construction program, and construction contract award and is now managing the Stage IV construction efforts utilizing multiple collaborative solutions to expedite the turnaround of RFI's and Submittals. Other responsibilities for this program have included developing and operating a program extranet for this critical security capital program. Substantial consideration was given to data security due to the sensitive nature of this program. Responsibilities included design, testing, implementation, training, and administration of the website, as well as participation in weekly project meetings for multiple projects. In addition, development and monitoring of information security policies and workflow processes were defined and built into the website operation. This website has pioneered numerous business processes for the Port Authority, including the first use of Livelink to issue a major RFP, maintaining all RFP documents, addenda, bidders' questions, and responses on the secure website. In addition, for the first time, the website was used to exchange RFI's and submittals of confidential and privileged security information/SSI.

Also served as the GIS program manager with the Port Authority, developing and implementing GIS solutions for the highly visible Capital Security Program. For the four PANYNJ airports and other critical facilities, applications have been developed to facilitate real-time data collection using backpack GPS receivers and rugged tablet PCs. The most current orthophotos and CAD files are loaded on the PC's and data is verified/updated in the field, eliminating the need to transfer field notes once back in the office. In addition he is working with NYPD, NYC OEM, NJOIT and other GIS agencies, and developing information sharing arrangements.

Port Authority of New York and New Jersey (PANYNJ), Downtown Restoration Program (PATH), New York, New York: Responsible for

Paul Adams, PE, continued

the development and management of the WTC GIS utility and infrastructure system for PATH and the permanent site development. The system is being created using Autodesk MapGuide and will contain all utility and infrastructure data in a GIS format. The system is being developed for use in the planning, design, and facility maintenance of the PATH system and any future facilities that will be developed on the site. Data is being collected from other agencies, and a standard GIS database will provide information for the Port Authority and cooperating agencies.

Port Authority of New York and New Jersey (PANYNJ), Port Ivory Intermodal Container Transfer Facility, Staten Island, New York: Responsible for the development and management of the Port Ivory pilot GIS utility database. The system was created using Autodesk MapGuide and will contain all utility and infrastructure data in a GIS format. The system was developed for use in the planning, design, and facility maintenance of all port commerce facilities. Data is being collected from other agencies, and a standard GIS database will provide information for the Port Authority and cooperating agencies.

Port Authority of New York and New Jersey (PANYNJ), Goethals Bridge Modernization Program: Developed and implemented a program extranet for the Goethals Bridge Modernization Program. This Web site was developed in a manner that will allow the program management team and the design team to essentially manage their own areas of the program Web site, with a common area that both teams can use for collaboration. Concentrated on the website topology design and training of select advance users.

Port Authority of New York and New Jersey (PANYNJ), Enterprise-wide Project Websites, New York: Engineering program Web sites manager provided website developing and implementing additional project websites for the Port Authority engineering department. Standardized website templates were developed to allow for implementation of numerous Web sites at minimal cost. All Web sites utilize the same database and will be integrated with the Port Authority electronic document center, thus allowing the project work-in-progress data to be incorporated into archived facility data, as part of the engineering department knowledge management model.

Port Authority of New York and New Jersey (PANYNJ), PATH Downtown Restoration Program, Manhattan, New York: As Web site manager, developed and implemented a program extranet for the highly visible PATH Downtown Restoration Program. Included in that effort was the implementation of a CAD standard for engineering and consultants. Responsibilities included design, testing, implementation, training, and administration of the Web site, as well as participation in weekly project meetings for multiple projects.

Port Authority of New York and New Jersey (PANYNJ), Electronic Document Management and CADD Management Call-In: Project manager for on-call services providing expertise and production in the areas of CADD standards, operating procedures, document archiving, document conversion, business process modeling, facility program management Web sites, GIS, and other applied technology.

Port Authority of New York and New Jersey (PANYNJ), Program Management on an As-Needed Basis: Served as consultant and task manager to provide services to the engineering management services division. Supervised a team of five people in the process of collecting active drawings and entering the information into a drawing file database. Designed and tested the drawing file database.

American Airlines, Terminal Redevelopment Program, JFK International Airport, Queens County, New York: Served as technology director for this $1.3 billion design and construction project providing all CAD management and project Web site development and management. The project involved over 200 team members, including planning, design and construction people from multiple firms in locations throughout the United States.

Jerry Allerdings, PE

Project Role: Project Manager

Education

MS, Civil Engineering, New Jersey Institute of Technnology, 1984

BS, Civil Engineering, New Jersey Institute of Technology, 1981

Registrations

PE: NJ, 1985, Registration No.: [redacted]

PE: PA, 1990, Registration No.: [redacted]

Professional Planner: NJ, 1990 Registration No. [redacted]

Professional Associations

American Society of Civil Engineers (ASCE)

Experience

Years with AECOM: 3
Years with other firms: 27

Employment History

2007-present: AECOM, Civil Project Manager

Mr. Allerdings has extensive experience in the management, design, and construction supervision of civil engineering projects, including roads, bridges, parking and toll facilities, buildings, municipal engineering, land development, dams, site plans, subdivisions, stormwater management, and utilities for public agencies and private clients, as well as supervision of staff and business development activities (proposal preparation and client contact).

Port Authority of New York and New Jersey (PANYNJ), JFK International Airport, Jamaica, New York, and Newark, New Jersey: Project manager at JFK International, Newark Liberty International (EWR) and Teterboro Airports. Responsible for overseeing the implementation of capital and operating projects, including runway, taxiway, roadway, and bridge rehabilitation; utility upgrades; parking garage improvements; and building assessments and rehabilitation. Specific assignments include mechanical and electrical rehabilitation of the CTA toll plaza building, priority bridge and building repairs, data center design, and pumping station upgrades at EWR; installation of backflow preventers at Teterboro Airport; and runway 4L-22R and taxiway J upgrades at JFK. Daily activities include overseeing the activities of Authority staff and consultants engaged in the planning, design, and construction supervision of projects; coordinating all aspects of the project from inception through final closeout; and coordinating activities among stakeholders (including project controls, engineering, airport operations, aviation planning, technical services, properties, procurement, and environmental). Additional tasks include the procurement of goods and services; monitoring project schedules and budgets with software (such as Primavera Planner, InCaps, Wintrak, and Expedition); and dissemination of project data to the project management office.

Hatch Mott MacDonald, New Jersey: Senior construction engineer responsible for overseeing construction services for the New Jersey market, including proposal preparation, staff supervision, budgeting and scheduling, and project management. Specific duties included providing professional construction coordination, engineering, and inspection services to clients (including scheduling and staging of work, monitoring safety programs, cost control, claims management, and supervision of construction contractor services). Responsible for business development for construction management and construction inspection services. Project management duties involved staffing, budgeting, scheduling, client contact, accounts receivable, supervision and scheduling of staff, and ensuring compliance with the corporate quality assurance and safety program. Prepared technical and fee proposal documents. Ensured representation at political and industry functions. Negotiated joint venture and subconsultant agreements. Prepared construction schedules and staging documents, as well as site-specific safety plans.

Jerry Allerdings, PE, continued

Conducted constructibility reviews and provided technical support to field personnel.

The Louis Berger Group, Inc., New Jersey: As project manager, reported to the director of program management for the Newark Airport Redevelopment Program. Responsibilities included overseeing the design and construction of roadways, bridges, toll facilities, and parking lot upgrades at the airport. Prepared and monitored project schedules and budgets; coordinated with other projects underway by the Port Authority of New York and New Jersey (PANYNJ), airlines, and other tenants. Served as PANYNJ's liaison in dealing with other agencies such as New Jersey Department of Transportation (NJDOT), Turnpike Authority, and the New Jersey Department of Environmental Protection. Prepared jurisdictional and maintenance agreements with other agencies; Negotiated a joint funding agreement with NJDOT to share costs for improvements to Routes 1&9, and managed contracts with equipment vendors. Oversaw the activities of design consultants and construction managers to ensure timely delivery of a project that is in compliance with PANYNJ's program goals for the redevelopment of the airport, and engaged in conflict resolution between different parties, troubleshooting problems as they arose.

New Jersey Turnpike Authority (NJTA), New Jersey: Project manager for the planning, design, permitting, and construction of transportation projects. Procured permits from the NJDEP, DCA, NJDOT, and other regulatory agencies. Prepared conceptual designs, environmental assessments, traffic studies, and revenue analyses, as well as monitoring budgets and schedules for capital improvement projects. Prepared status reports and made presentations to the executive director and commissioners. Prepared requests for proposals and administered professional service contracts in compliance with state guidelines. Directed the efforts of consultants engaged in the design and construction supervision of transportation projects, and oversaw the award of professional service contracts and the bidding of construction contracts for compliance with state regulations. Managed construction activities to ensure compliance with contract documents, Authority standards, and regulatory requirements. Coordinated Authority projects with other agencies (such as the NJDOT and the PANYNJ), and conducted public hearings.

Sparta Engineering and Land Company, New Jersey: Project engineer/municipal engineer responsible for overseeing local road improvements in accordance with New Jersey Department of Transportation (NJDOT) local aid guidelines. Performed engineering analysis and design of drainage systems, roadways, dams, septic systems, water and sewer utilities, and other tasks associated with residential and commercial subdivisions and site plans. Prepared permit applications and support documentation for submittal to the New Jersey Department of Environmental Protection, NJDOT, soil conservation districts, planning boards, and other agencies having jurisdiction over land development. Scheduled and supervised work performed by engineers, draftsmen, surveyors, and clerical staff. Made presentations before planning and zoning boards, and assisted the planning board and municipal engineers with their duties.

Jersey City Housing Authority, New Jersey: As construction manager, oversaw preparation of plans and specifications for the rehabilitation of multifamily residential structures, site work, utilities, and a new community center. Monitored construction activities associated with improvements to residential buildings and associated site work to ensure compliance with contract documents. Worked with architects, engineers, and contractors to solve problems, control costs, and maintain schedules. Maintained project files for all design, permitting, and construction activities. Prepared change orders; recorded as-built data; responded to requests for information; reviewed and approved invoices, shop drawings, and material certifications. Conducted job meetings with contractors, designers, and site managers, and coordinated construction activities with utility providers, site managers, and tenant representatives.

Jerald Alston

Project Role: Project Manager

Education

BS, Civil Engineering, North Carolina Agricultural and Technical State University, 1997

Professional Associations

American Society of Civil Engineers (ASCE)

Experience

Years with AECOM: 12
Years with other firms: 1

Employment History

1998-present: AECOM, Civil Engineer

Mr. Alston is a civil engineer with more than 10 years of experience in the related field. He possesses extensive project experience managing the open Text/Livelink Project Website for the PANYNJ Security Program Management Contract.

PANYNJ, Open Text/Livelink Project Website Administrator, Security Project Management, Jersey City, NJ:

Manages Secure Collaborative Project Website, including:

- Architecture, formatting, structure and troubleshooting
- Per project needs assessment
- User account creation and content permissions
- Content and user audit reports as well as custom reports as needed

Administers Security and Website use training for all users:

- Familiarizes users with agency protocols
- Develops training materials and manuals
- Sets up custom work processes and workspaces as needed
- Instructs all users in website access, use and capability
- Reinforces responsibility to protect sensitive information

Provides Policy and Procedure Development:

- Expansion of Security policies for electronic content
- Research and implementation of hardware/software solutions for increased security protection (Digital Rights, etc.)
- Creating Security Manual for electronic content to be expanded agency wide

Security Information Management

- Manages legal documentation
- Polices security policies for department

Controls Secure Information Distribution

- Produce materials for presentation to all internal and external parties (agency, NYC, state, federal)
- Direct senior and mid-level management in presentation methodology
- Create all graphical representation for information for presentation and distribution

Other responsibilities include:

- On-site IT/Helpdesk support for SPM Department:Various research and reporting for Senior Management
- Website and graphics design work
- Audio/Visual technician
- Audio/Video production/editing

Newark Liberty International Airport Security Enhancements, Newark, NJ: Served as Principal Project Engineer. Developed Plans for work order contracts to enhance security measures at Newark Airport which included security patrol roads, fencing and underwater sewer protection.

Jerald Alston, continued

PANYNJ Engineering Support Consultant, Program Management Division, Newark, NJ: Created formal presentations for the Chief and Deputy Chief Engineers which include presentations for all construction award approval from the Board of Directors of the PANYNJ. Maintained database and develop reports tracking multi-million dollar construction contracts and awards for the Engineering Division. Also prepared weekly newsletter to highlight significant events and progress of on-going construction

Route U.S. 1 & 9, New Jersey Department of Transportation (NJDOT), New Jersey: Designed various aspects including right-of-way documents, vertical and horizontal alignments, construction plans, cross sections, typical sections, drainage and utility facilities, grading, and traffic control. Coordinated with various New Jersey Department of Transportation personnel to assist in the optimization and design. Assisted senior engineers in administrative aspects of the project.

Route 27/Amtrak Rail Project, Edison, NJ: Served as Principal Traffic Engineer. Resolved NJDOT comments and provided Value Engineering support. Developed Right of Way documents.

Industrial Avenue/Raritan Center Road Extension Project, Edison, NJ: Served as Principal Project Engineer. Developed Technical Report for Middlesex County and Facility. Created contract plans including Construction Plans, Profiles, Grades, Typical Sections and Cross Sections.

Rhode Island Federal Rail Improvement Project (FRIP), Rhode Island: Developed Construction Plans, Cross Sections and Earthwork Quantities.

Meadowlands Mills Project, Meadowlands, NJ: Developed Engineer's Estimate for traffic interchange.

NJ Turnpike Guide Rail Replacement Project, New jersey: Designed guide rail for the entire Turnpike.

Helen Street Extension Project, South Plainfield, NJ: Developed cost estimates for various design alternatives.

Route 10 Viaduct/Cranston Road Project, Boston, MA: Developed Cross Section earthwork quantities.

Cherry Hill Extended Stay America, Cherry Hill, New jersey: Surveyed land for proposed construction site.

Linden Train Station Improvement Project, Linden, NJ: Developed earthwork quantities.

Kenneth P. Bobetsky, PE

Project Role: Project Manager

Education

BS, Civil Engineering, The City College of New York; 1982

Associate of Applied Science, Civil Technology, State University of New York at Farmingdale, 1977

Professional Registrations

PE: NY, 1995. Registration No. [redacted]

PE: NJ, 1999. Registration No. [redacted]

Professional Associations

American Society of Civil Engineers
Society of American Military Engineers
American Society of Highway Engineers
Women in Transportation Seminar

Total Years of Experience:

years with AECOM: 20
years with other firms: 8

Employment History

present: AECOM, Civil Project Manager - Terminated 04/29/05
2002-2003: Urbitran Associates, Inc., New York, New York, Vice President/Chief Highway Engineer
2000-2001: James, LaSala & Associates, Melville, New York, Senior Director
1992-2000: Port Authority of New York and New Jersey, New York, New York, Program Manager
1989-1992: STV/Seelye Stevenson Value & Knecht, New York, New York, Project Manager/Civil Design Engineer
1982-1989: Vollmer Associates, New York, New York, Project Manager/Civil Design Engineer
1979-1982: Gibbs & Hill, Inc., New York, New York, Structural Draftsman/Designer

Mr. Bobetsky has 28 years of experience in transportation engineering management with an emphasis on project delivery and growth. His expertise includes program management, implementation, staff supervision, mentoring, intuitive, creative and efficient problem-solving, along with a strong sense for prioritizing, urgency and decisiveness.

Program Manager for Program Controls and Administration: Responsible for developing, managing and coordinating the $1.9 billion JFK AirTrain program's cost control and scheduling system, project plan review, application for payment and change order processes. Led a team of project control specialist including schedulers, cost and financial analyst and document control. Provided financial reporting to the Program Director.

Engineering Projects for Priority Capital Programs and Aviation Department Facilities of the Port Authority of NY& NJ: Project Manager responsible for the management of engineering projects in support of Priority Capital Programs and Aviation Department Facilities of the Port Authority of NY& NJ Responsibilities included:

- Supervising engineering efforts encompassing studies, field data collection, planning, conceptual and preliminary design and preparation of contract documents.
- Defining and setting project scope and schedule as developed through meetings, field investigations and evaluation of client department needs.
- Preparation of Board Items and presentations to obtain Project Authorization from the Commissioners.
- Establishing project budget and control of staff charges against authorized budgets.
- Resource staffing and coordination of engineering disciplines along with material testing and construction supervision and inspection as well as out-sourcing to design consultants.
- Preparing and evaluating of RFQ/RFP's, contract bidding and awards.
- Expediting design support services during construction and implementing post-award contract changes.

Projects included:

- New York Airport Access Program – AirTrain Terminal at Jamaica Station intermodal complex (in conjunction with the LIRR - $400 million).
- Land Access Project at Newark Airport – Southern Access Roadway Package ($100 million).
- LaGuardia Airport – Central Terminal Building – Center Section Modernization (70,000 SF).
- Newark Airport – Repairs to the 15,000 linear feet of 36-inch condenser water intake pipe.
- Installation of 1,300 aeronautical guidance signs at the three PA airports to meet new FAA criteria.
- Design of automotive repair shop at JFK Airport.
- Design of a cooling tower system to service the three terminals at Newark Airport.

Kenneth P. Bobetsky, PE, continued

- Project planning for a program to protect and preserve the pile-supported concrete deck at LaGuardia Airport to safely accommodate the introduction of the Boeing 767-400ER.
- Terminal B Modernization Program - Newark Liberty International Airport, which included significant upgrades to the facility, connector structures, baggage handling and security.
- Project Manager/Civil Design Engineer
- Responsibilities under the "JFK 2000" Program included: overseeing development, coordination (among four design teams) and completion of design documents for the baggage handling system contract; development of civil/site design and construction staging documents for the east and west parking garages, central terminal building, roadway development and passenger distribution system and construction support services for the installation of main power feeder duct-banks, which included micro-tunneling under active runways.

Task Order Manager (TOM) providing Project Management Oversight (PMO) for three FTA projects under the Lower Manhattan Redevelopment Recovery Program: Responsible for managing the team, including sub-consultants, in providing PMO services for these federally financed projects. Led the team in oversight of the grantee-prepared documentation and activities including: project management plans, planning and NEPA compliance, program methodology, public outreach efforts, design, procurement, project controls (including cost, schedule and QA/QC), real estate, constructability, risk assessment and mitigation and construction management (conducting site visits and reports, change order monitoring, maintenance and protection of traffic and impacts to local community). Responsibilities include managing staff in attending project meetings and providing reports, reviewing NYSDOT & MTA's design work and project delivery plan and preparing reports on the findings with conclusions and recommendations; and working closely with the client (FTA) while nurturing a trusting relationship with the grantees (NYSDOT & MTA).

Chief Highway Engineer responsible for the operation and production of the civil/highway department: Directed and provided technical supervision during the preparation of preliminary and final design plans developed for such clients as the NYCEDC, NYCDDC, NYSDOT and MTA-MNR, along with site development for architects and private developers. Responsibilities also include business development activities; meeting with clients and preparation of competitive design and management proposals.

Other positions held:Project Manager/Civil Design Engineer:

Responsibilities under the "JFK 2000" Program included: overseeing development, coordination (among four design teams) and completion of design documents for the baggage handling system contract; development of civil/site design and construction staging documents for the east and west parking garages, central terminal building, roadway development and passenger distribution system and construction support services for the installation of main power feeder duct-banks, which included micro-tunneling under active runways.

Project Management responsibilities included overseeing design and construction support services for NYSDOT highway projects (including the LIE/SOBE Interchange, BQE and the Nassau Expressway - also requiring coordination with the Port Authority of NY & NJ), NYCDOT assignments (including several street rebuilding programs and a seawall) along with service main installation contracts for the gas companies: Design responsibilities included major urban highways, private site roadways and utility systems layout and hydraulics, civil design of utility systems, right-of-way engineering (including development of acquisition and easement maps for agreements between NYSDOT and the Port Authority), specification writing and development of Engineer's Estimates. Also prepared and participated in public hearings and public information meetings.

Christopher Benosky, PE, CFM

Project Role: Project Manager

Education

MS, Civil Engineering, Ohio State University, 1992

BS, Civil Engineering, Ohio State University, 1991

Professional Registrations

PE: NY, 1996, Registration No.: [redacted]
PE: NJ, 1997, Registration No.: [redacted]
PE: PA, 1999, Registration No.: [redacted] DE, [redacted]
PE: FL, 19967, Registration No.: [redacted],
PE: LA, (Pending)

OSHA 40hr. HAZWOPER Health & Safety
OSHA 8hr. HAZWOPER Health & Safety Annual Refresher
ASFPM Certified Floodplain Manager [redacted]

Rosgen Level I - IV

Professional Associations

American Society of Civil Engineers, Member

Total Years of Experience:

years with with AECOM: 22
years with other firms: 1

Employment History

2008-Present: AECOM
2004-2008: CMX
2002-2004: The Louis Berger Group, Inc.
1993-2002: URS Corporation (formerly Woodward-Clyde)
1992-1993: The Reynolds Group, Inc.
1991-1992: The Ohio State University
1987-1991: Johnson Engineering, Inc.
1985-1986: Donald H. Stires & Associates, Inc.
1981-1985: PAB & Associates, Inc.

Mr. Benosky has over 23 years of experience in wetland and stream restoration design and construction, hydrologic and hydraulic analyses, stormwater management system design, dam engineering, geotechnical engineering, construction cost estimation, and construction management. He was involved in the restoration of more than 10,000 acres of wetlands throughout the Atlantic coast of North America.

New Jersey Turnpike Wetland Construction Observation, Sections 5 through 9: AECOM is providing full time Resident Engineering and inspection services for Contract 001 of the NJ Turnpike 6 to 9 widening project. This portion of the contract consists of four freshwater mitigation sites that require construction oversight and field inspection to ensure that the work is in compliance to the approved plans and specifications, as well as NJDEP regulatory permit requirements. The four sites total 93 acres of wetland restoration and reforestation, construction of vernal pools, upland and wetland planting, invasive species removal, and the creation of new ecological habitat. Mr. Benosky is the full time resident engineer for the wetland mitigation sites for the entire duration of the project, with responsibilities including daily coordination with the construction contractor; approval of change order requests, responses to RFIs, and review of shop drawings; and oversight of field inspectors.

Estuary Enhancement Program Tidal Wetland Construction, New Castle, DE and Cape May, NJ: As Project Field Engineer, Mr. Benosky oversaw construction for this project which consisted of the construction of more than 10,000 acres of tidal wetlands. The field engineering responsibilities included implementing field design changes; design and inspection of earthen cofferdams and tide gates to prevent tidal inundation during construction; quality control including depth soundings for dredged channels and overseeing field and laboratory soil testing; coordinating with site manager to plan daily work activities and manage subcontractors; and facilitating weekly progress meetings and monthly Community Involvement Committee meetings. Project was funded by Public Service Electric and Gas.

Dam No. 40 Rehabilitation, West Milford, Passaic County, NJ: As Project Field Engineer, Mr. Benosky oversaw the rehabilitation construction of the 190-ft long and 15-ft high earthen embankment dam known as No-Name Dam No. 40, impounding the Algonquin waters in West Milford, New Jersey. The rehabilitation construction consisted of increasing the length of the existing spillway while maintaining the crest elevation, raising the embankment to prevent overtopping, installing a new low-level outlet and constructing a berm along a low lying area on the shoreline. Project was funded by the Town of West Milford.

Sussex County Landfill Closure, Lafayette, NJ: As Project Field Engineer, Mr. Benosky oversaw the construction of the closure of a portion of the Sussex County Municipal Utility Authority landfill in Sussex County, New Jersey. The closure construction included the installation of the landfill cap, leachate management system,

Christopher Benosky, PE, CFM, continued

gas collection system, and stormwater management system. Field engineering responsibilities included implementing field design changes; quality control; overseeing field and laboratory soil testing; coordinating with site manager to plan daily work activities and manage subcontractors; and facilitating weekly progress meetings with the owner. Project was funded by Sussex County MUA.

Project Management Plan, Ecosystem Restoration Study, Hackensack, NJ: As Project Engineer, Mr. Benosky was responsible for preparing the feasibility study cost estimate for the Hackensack Meadowlands Project Management Plan for the USACE. The purpose of the management plan was to determine the feasibility of environmental restoration and protection projects relating to water resources, wildlife habitat, and sediment quality within the Hackensack Meadowlands District (HMD), located within the Port of New York and New Jersey. This included creating extensive, individual cost estimate spreadsheets for over 80 engineering and technical subtasks, merging the spreadsheets into summary tables that detailed calculated inflation rates, costs over four fiscal years based on chronology of tasks, and cost apportionment by responsible parties. Detailed description of tasks and subtasks required to produce products and deliverables, analyze alternatives, and determine restoration feasibility under the management plan were also created. The project also required the compilation of a list of relevant existing environmental data and reports pertaining to the Hackensack Meadowlands District. Existing data and reports were inventoried, including available historical and current mapping, at the New Jersey Meadowlands Commission (NJMC) / Meadowlands Environmental Research Institute (MERI) library, published environmental report lists were obtained from various federal and state agencies, and selected relevant publications from the MERI's internet database.

Pennington Farm Park, Delanco Township, NJ: As the Hydraulics and Hydrology Task Master, Mr. Benosky was responsible for the Pennington Farm Park's overall stormwater management system design. Funded by Burlington County, the project consisted of the preparation of an overall Master Plan of proposed recreation and site improvements and the preparation of construction cost estimates, final construction documents and contract drawings, and construction administration services for this 140-acre site that will be developed as a county park facility along the Rancocas Creek. The site presently exists of agricultural fields, woodlands, creeks, and freshwater wetland areas and will be developed as a passive recreation facility with an emphasis on wildlife, reforestation, and environmental awareness. The improvements include the design of passive recreation areas, walkways, picnic areas, playgrounds, bikeways, parking facilities, restrooms, scenic overlooks, nature trails, and aesthetic landscape improvements through the use of native plant materials, reforestation areas, wildflower meadows and the design of a bio-retention swale to address stormwater quantity and quality requirements.

Mountain Creek Dam, Vernon Township, Sussex County, NJ: As Project Manager, Mr. Benosky was responsible for the hydraulic and hydrology modeling including dam break modeling using ACOE HEC-RAS analyses in conjunction with the DAMBRK software to define the downstream Inundation Mapping limits and assess the hazard classification of the dam. The data will be used for the rehabilitation design of the dam and spillway. Also involved in the regular dam inspection and preparation of an Operations and Maintenance Manual in accordance with NJDEP Dam Safety Standards. Project was funded by Mountain Creek Resort.

Sue Anne Chong

Project Role: Project Manager

Education

Bachelor of Architecture with Distinction, Carleton University, Ottawa, Canada, 1994

Professional Associations

2000 American Feng Shui Institute

Total Years of Experience:

years with AECOM: 12
years with Other Firms: 0

Employment History

1998-present: AECOM, Designer- Architecture

Sue Anne is an experienced Architect and Project Manager on large complex projects for private and public clients in New York and the region. Sue Anne is an excellent communicator, skilled at scheduling and project organization. She participates in client meetings, design development, construction administration, construction drawings, coordination with engineers and planning boards, building department submittals, zoning computations for various sites, site visits, document research; and is fluent in AutoCAD.

The Port Authority Trans-Hudson World Trade Center Transportation Hub, New York, NY: Project Manager for first construction package of the new $3 billion permanent Port Authority Trans-Hudson (PATH) terminal at the World Trade Center (WTC) site in Lower Manhattan. Lead design coordinator for the New West Street Concourse designed by Santiago Calatrava. A complex multi-level construction project integral with the Freedom Tower and connecting to the World Financial Center. Ms. Chong leads a team of architects and engineers.

New American Airlines JFK Terminal, New York, NY: On-site Project Coordinator for construction administration services on 3 phasing stages of $1.1 billion. The project consisted of new construction for a 1,500,000 sf building.

New York City Department of Corrections, New York, NY: Project Manager for system-wide correctional facility kitchen renovations and building additions, The project involved $45 million in renovations of six facilities for NYC Department of Design and Construction.

55 W Church Street, Orlando, FL: Project Manager for a 31-story high rise and 12-story parking structure. The mixed-use facility cost $74M for a 1,500,000 sf building.

Florida International University, Marine Biology Building, Key Biscayne, FL: Project Manager for a new $9.7M marine biology service center and laboratory.

US Attorney's Office, Silvio Mollo Federal Building, New York, NY: Project Manager/Construction Administration for a 30,000 sf renovation of existing space.

Hard Copy, New York, NY: Designer Architect. Supervised the team that completed a complete inventory of machinery, layout, and design during the renovation of 2 floors (6,000 sf) in a printing facility with a retail outlet.

RiteAid Drug Stores Regional Task Order Contract, New York and New Jersey: Designer Architect. Supervised the surveying of multiple sites for the chain, coordinating with surveyors and geotechnical engineers, compiling information for ICIP forms (which provide tax incentives when filed with the building department) and providing other services required for a complete tenant fitout. Executive Summary Reports were prepared for all projects, explaining zoning code requirements and unusual conditions needed for tenant fitout for each particular site. A partial listing of projects includes:

- 154-158 West Tremont Avenue, Bronx, NY
- Renovation of 11,700 sf theatre to create a supermarket and pharmacy

Sue Anne Chong, continued

- 222-238 Bloomfield Avenue, W. Lake Street, Highland Avenue, Newark, NJ
- 11,000 sf new pharmacies
- Reiss Retail Center, East Rutherford, NJ
- 30,000 sf supermarket conversion into 14,000 sf pharmacy and 26,000 sf open laundromat
- 70 Bloomfield Avenue, Glen Ridge, NJ
- 11,000 sf new pharmacy
- Route 10 & Mt. Pleasant Avenue, East Hanover, NJ
- Conversion of 13,000 sf existing garage into 12,000 sf pharmacy

Systemwide Correctional Facility Kitchen Renovations, New York, NY: Designer Architect. for $45M (total) renovations to kitchens at six New York City correctional facilities in the Bronx, Brooklyn, Staten Island, and Queens for the NYC Department of Design and Construction.

Francis W.F. Chu, PE, LEED AP

Project Role: Project Manager

Education
BS, Civil Engineering - Structures, University of Connecticut, 1984

Registrations
PE: NY, 2007, Registration No.: 084776

PE: CT, 1990, Registration No.: [redacted]

LEED Accredited Professional: US, 2009, Registration No.: [redacted]

Professional Associations
American Society of Civil Engineers (ASCE)

Structural Engineering Institute (SEI)

American Institute of Steel Construction (AISC)

U.S. Green Building Council (USGBC)

Green Building Certification Institute (GBCI)

Experience
Years with AECOM: 21
Years with other firms: 3

Employment History
1989-present: AECOM, Project Manager

Mr. Chu is a registered professional engineer and LEED accredited professional with extensive experience in project management, planning, design, and construction of new and rehabilitated transportation facilities, and the inspection and analysis of existing buildings and bridges. His extensive experience in both public and private sectors has led to successful completion of a wide variety of major building facility, parking structure, single and multi-span elevated roadway and bridge projects.

Port Authority of New York and New Jersey (PANYNJ), World Trade Center Transportation Hub Port Authority Trans-Hudson (PATH), Manhattan, New York: Project and package manager of the Downtown Design Partnership responsible for the final design and construction of the 650,000-square-foot permanent PATH terminal in association with renowned architect Santiago Calatrava. Major design elements include site preparation, site stabilization, PATH facilities (tracks, platforms, and mezzanine), as well as elements of the terminal building (oculus, pedestrian connections, security, sustainable design, vertical transportation, and conveyances and public wayfinding systems). Extensive design and construction phasing coordination and onboard reviews were conducted with the multiple design teams; various city, state, and federal agencies; stakeholders; utilities; fabricators; and contractors to expedite the completion of multiple design packages in order to facilitate staged construction and accommodate site conditions.

JetBlue Airways (JB), Terminal 5 Airside and Landside Improvements, John F. Kennedy International Airport, Jamaica, New York: Project manager in charge of the preliminary design through TAA submission of the airside and landside design packages on a fast track delivery schedule. Early works packages were strategically engineered and expedited through the PANYNJ rider review process to facilitate the commencement of asbestos abatement, building demolition, and utility relocation. Other major design elements include the frontage arrivals and departures roadways, utilities, apron pavement and drainage, and the hydrant fueling system, to support the 635,000-square-foot terminal with 26 gates. Extensive coordination efforts were undertaken amongst the design teams and various agencies on environmental permitting and historical preservation of the landmark Saarinen terminal building and its flight wings.

American Airlines (AA), Terminal 8 Redevelopment Project, Landside and Airside Tunnel, John F. Kennedy International Airport, Jamaica, New York: Project manager responsible for the overall design and construction of the airside tunnel, landside frontage elevated departures, at-grade arrivals roadways, and the associated utilities. The 25 percent-stage contract documents were advanced on an accelerated schedule to 100 percent and completed within a four-month period, which included an interim review by the PANYNJ. Roadway designs were tailored and modified to site-specific requirements through close coordination with the AirTrain light rail system project, underground utilities relocation, terminal building demolition and construction, temporary facilities installation, maintenance and protection of traffic, and construction staging and phasing.

Francis W.F. Chu, PE, LEED AP, continued

Radiant Aviation Services, Inc. (RAS), InfraTek® Radiant Energy Deicing Facility, Newark International Airport, Newark, New Jersey: Project manager in charge of design and construction services for the construction of a chemical-free InfraTek® aircraft pre-flight deicing facility. This 34,000–square foot, 60-foot-high aluminum pre-engineered arch structure houses an array of the state-of-the-art computerized gas-fired radiant energy process units for deicing aircraft up through B-757 size jets. This was the first of its kind erected within a major commercial airline (Continental Airlines) leasehold at an international airport. The final contract documents of this fast track project were generated in three weeks, and the actual construction took just two months to complete. Liaison efforts included initiating and expediting three separate PANYNJ tenant alteration applications and review processes for phased construction purposes to facilitate the accelerated construction schedule.

Continental Airlines, Inc., Terminal C Expansion, Central Terminal Area and Frontage Roadways Reconstruction and Rehabilitation, Newark International Airport, Newark, New Jersey: Design manager on the $1.5 billion Global Gateway Program, responsible for conceptual design, programming, feasibility study, peer review, and value engineering for concourse expansion, terminal renovation, FIS and baggage facilities, parking structure, central plant, and associated interim facilities; reconstruction and rehabilitation of the central terminal area roadways, frontage roadways, and associated temporary bypass structures. Also served as technical liaison on behalf of Continental Airlines between PANYNJ and multiple design consultants.

American Airlines (AA), Frontage Arrivals and Departures Roadways and Airside Tunnel, JFK Terminal Redevelopment Project, John F. Kennedy International Airport, Jamaica, New York: Project manager responsible for the overall design and construction of the airside tunnel, landside frontage elevated departures, at-grade arrivals roadways, and the associated utilities. Advanced the 25 percent contract documents to the 100 percent stage on an accelerated schedule – completed within a four-month period, which included an interim review by the Port Authority of New York and New Jersey (PANYNJ). Roadway designs were tailored and modified to site-specific requirements through close coordination with the light rail system project, underground utilities relocation, terminal building demolition and construction, temporary facilities installation, maintenance and protection of traffic, and construction staging and phasing.

Lincoln Center Development Project, Inc., Lincoln Center Promenade Project, New York, New York: Project manager in charge of the redevelopment in transforming the front entrance of the world's greatest center for the performing arts through its sense of transparency and openness, enhanced circulation and use of public spaces, a new iconic fountain and renovated plaza, a new grand stair with flanking state-of-the-art glass canopies, a new depressed Columbus Avenue frontage drop-off roadway and improvements to all the concourse spaces between Columbus Avenue, the New York State Theater, Avery Fisher Hall, and the New York Metropolitan Opera. Extensive coordination efforts were undertaken amongst the design team, 13 constituents on campus and various agencies for design review and permit approval; and logistics planning to maintain access and emergency egress for all the venues during construction.

MTA Metro-North Railroad (MNR), Grand Central Terminal Train Shed and Brick Arches Rehabilitation, New York, New York: Team leader in charge of the emergency inspection of various train shed areas supporting Park Avenue. Performed condition survey and structural evaluation for interim repairs.

Connecticut Department of Transportation (ConnDOT), Bradley International Airport Jet Bridge Relocation, Windsor Locks, Connecticut: Project manager in charge of multi-disciplinary design associated with the relocation of an existing jet bridge and an interim two-story stairwell. The project included site investigation, preliminary and final designs, and construction phase services.

L. David Conger, PE

Project Role: Project Manager

Education
BS, Civil Engineering, University of Vermont, 1992

Registrations
PE: NY, 2002, Registration No.: [redacted]

PE: VT, 2000, Registration No.: [redacted] Civil)

Professional Associations
American Society of Civil Engineers (ASCE), New York Metro, Air Transport Group Co-Chair

Experience
Years with AECOM: 9
Years with other firms: 10

Employment History
2001-present: AECOM, Civil Project Manager

1991-1991: Chittenden County Regional Planning Commission, Essex Junction, VT, Assistant Traffic Engineer

1991-1992: Trans Op, Inc., Williston, VT, Traffic Technician

1992-1994: FitzPatrick-Llewellyn, Inc., Willliston, VT, Design Engineer

1995-1996: FitzPatrick-Llewellyn, Inc., Willliston, VT, Project Manager

1996-2000: DuBois & King, Inc., Williston, VT, Project Manager

Mr. Conger has considerable experience in transportation, environmental and general civil engineering projects. He has managed many assignments involving aeronautical design, roadway design, site and utility designs, traffic impact studies, and construction inspection for multiple public agency contracts including Port Authority of New York and New Jersey, Metro-North Railroad, and New York City Department of Environmental Protection.

Port Authority of New York and New Jersey, JFK 13R-31L "Bay Runway" Reconstruction and Rehabilitation, JFK International Airport, Queens, New York: Project manager for the $348 million design and reconstruction of JFK's longest runway. The Bay Runway was widened to accommodate new large aircraft and surfaced with concrete instead of asphalt to provide for a 40-year useful life of the runway by surfacing. Construction included delay reduction improvements to taxiways for Runway 13R-31L to increase operational efficiencies and reduce air traffic delays of approximately 10,485 hours annually. This project will result in approximately $55.36 million of annual savings in aircraft operating costs and the value of passenger time based on FAA modeling. Lighting and electrical infrastructure was also upgraded. Minimized customer impacts by working closely with JFK operations, the FAA and airlines on the detailed construction staging and operating plans. These plans included scheduling the runway closure during the non-peak travel season, using different runway configurations to better utilize existing capacity and flight schedule adjustments by the airlines.

NJ Transit & Port Authority of New York and New Jersey, Access to the Region's Core (ARC) Mass Transit Tunnel - Conceptual Design (formerly Trans-Hudson Tunnel), New Jersey & New York: Civil lead for the conceptual design of the $8.7 billion NJ Transit's new dual railway tunnel. The tri-venture team developed conceptual design to obtain a positive Federal Transit Administration Record of Decision. Responsible for civil design group that developed alignment, grading, drainage, and site utilities for this 9-mile-long dual track alignment including nearly 18,000 linear feet of tunnel track, mid-day storage yard, New Jersey station, and Manhattan station. Work included oversight of utility location and drilling subcontractors, as well as providing information on existing utility that potentially were affected by the track and tunnel alignment or geotechnical investigation. The civil designs were used to develop permanent and temporary ROW takings for several hundred properties affected by the proposed alignment. The civil group also provided environmental impact statement and New York City Uniform Land Use Review procedures support with reviews of wetland, landfill impacts, contaminated soils and property environmental reviews along the alignment.

JetBlue Airways, Terminal 5 Airside Improvements, John F. Kennedy International Airport, New York: Project manager for airside/landside improvements associated with the construction of a new terminal 5 for JetBlue Airways. Project work included all civil and electrical airside/landside design, overall site drainage, aircraft

L. David Conger, PE, continued

fueling systems, access roadways and structural roadway ramps to accommodate the new terminal building and aircraft operations. Apron areas adjacent to the JetBlue terminal and along relocated taxi lanes are being rehabilitated with new concrete pavement. The site drainage and sanitary sewer designs incorporate both gravity and pressure systems with new pump stations.

Port Authority of New York and New Jersey, Perimeter Intrusion Rapid Deployment Program, JFK International Airport, Queens, New York. Project Engineer: Work included investigation and design for the perimeter security route for approximately 2.1-mile airside/landside boundary; field inspection to determine the perimeter routing conditions and unanticipated problems; review of airport operations; as well as FAA and tenant requirements. Additionally, new perimeter fence designs were developed for portions of the bayside perimeter where there was no existing fence. The fence types adjacent to Runways 4L-22R and 4R-22L were coordinated with the FAA due to infringements of height and frangibility restrictions of the runway object-free areas.

Port Authority of New York and New Jersey, Stormwater Pump Station Outfalls, LaGuardia Airport, New York: Project manager for the rehabilitation of riprap at stormwater pump station outfalls. Work involved hydraulic analyses of the stormwater outfalls and preparation of rehabilitation alternatives. A gabion basket rehabilitation alternative was developed to protect the riprap outfalls from scour associated with the pump discharge points. Design work included temporary construction to provide access over the airport perimeter berm, outfall bed grading, and the gabion basket details and specifications.

Port Authority of New York and New Jersey, Utilities Rehabilitation, LaGuardia Airport, Queens, New York: Project engineer for the rehabilitation of underground utilities and water mains. Project involved investigation, design, and construction support services for underground utility improvements under three separate contracts in conjunction with other major site and roadway improvement projects to minimize construction impacts to airport operations. Project work included the utility upgrades required to meet new roadway alignments and grades, taxi stand, restroom, and FAA control tower buildings. Utility construction staging was designed to maintain the existing water and sanitary systems until final transfer of services was complete. The design utility layouts were developed to both meet proposed roadway conditions and to minimize MPT conflicts.

NJ Transit & Port Authority of New York and New Jersey, Access to the Region's Core (ARC) Mass Transit Tunnel - Conceptual Design (formerly Trans-Hudson Tunnel), New Jersey & New York: Civil lead for the conceptual design of the $8.7 billion NJ Transit's new dual railway tunnel. The tri-venture team developed conceptual design to obtain a positive Federal Transit Administration Record of Decision. Responsible for civil design group.

Port Authority of New York and New Jersey, Perimeter Intrusion Rapid Deployment Program, JFK International Airport, Queens, New York: Project Engineer. Work included investigation and design for the perimeter security route for approximately 2.1-mile airside/landside boundary; field inspection to determine the perimeter routing conditions and unanticipated problems; review of airport operations; as well as FAA and tenant requirements.

Port Authority of New York and New Jersey, Utilities Rehabilitation, LaGuardia Airport, Queens, New York: Project engineer for the rehabilitation of underground utilities and water mains. Project involved investigation, design, and construction support services for underground utility improvements under three separate contracts in conjunction with other major site and roadway improvement projects to minimize construction impacts to airport operations.

Port Authority of New York and New Jersey, Van Wyck Expressway Lighting Phases I and III, JFK International Airport, Queens, New York: Project engineer for the installation of a new duct bank of Van Wyck Expressway lighting.

Frederick J. Eilinger, Jr., PE

Project Role: Project Manager

Education

BS, Civil Engineering, Structural/ Civil Engineering, Stevens Institute of New Jersey, 1978

Registrations

PE: NJ, 1986, Registration No.: [redacted]

PE: DE, 1988, Registration No.: [redacted] Civil)

Experience

Years with AECOM: 3
Years with other firms: 29

Employment History

2008-present: AECOM Transportation, Buildings Project Manager

2005-2008 Pascack Valley Hospital, Westwood NJ, Director of Engineering

2002-2005 Port Authority of New York and New Jersey, Newark, NJ Project Management Consultant

2001-2002 Troast Management Group, Inc. Paramus, NJ Project Management Consultant

2000-2001 St. Joseph's Hospital and Medical Center, Paterson, NJ Manager Facilities Construction

1989-2000 Lipton Inc. Englewood Cliffs, NJ Manager, Corporate Facility Engineering

1979-1989 Chiquita Brands, Inc, Montvale, NJ, Project Engineer

Mr. Eilinger has extensive experience in the management, planning, design and construction of a broad range of projects associated with industrial, commercial, healthcare, foods and business facilities. Work experience includes structural, mechanical electrical and environmental work.

Port Authority of New York and New Jersey, Newark, NJ: Project Manager at Newark Liberty International Airport. Responsible for all facets of project management as related to MEP based projects associated with the Central Terminal Area and the Terminal B Modernization Program. Projects include:

- Terminal B Fire Alarm Upgrade and subsequent Fire Alarm Replacement,
- Rehabilitation of Mechanical and Electrical Infrastructure for Terminal B Satellite Operations,
- Installation of Emergency Generator
- Capacity Upgrades for Federal Immigration Services Hall,
- primary Chilled Water Booster pump system
- Upgrade of Electrical infrastructure for Runway Switch House #2.

Port Authority of New York and New Jersey, Newark, NJ: Consultant, Project Management. Engaged in project management of diverse facility improvements related to tunnels, bridges and terminals within the jurisdiction of the Port Authority. Responsibilities included coordination of all phases of project development and design from concept to close out. Projects included:

- Lincoln Tunnel ventilation buildings structural rehabilitation (both Manhattan and New Jersey sides),
- New service garage for NJ toll plaza of the Lincoln Tunnel,
- Upgrade of Fire sprinkler system for Lincoln Tunnel,
- New Traffic Control Center for Lincoln Tunnel,
- Automated traffic advisory signage system for New York approach roads for Lincoln Tunnel including Bus Terminal approaches.

Pascack Valley Hopsital, Westwood, NJ: Director of Engineering. Responsible for supervision of 15 plant maintenance staff. Provided for the orderly closure of the facility under guidance of the Bankruptcy Court. As Project Manager provided project and management services for diverse infrastructure improvement projects including four story 100,000 SF Multi-use Addition, Restroom Renovations, Computer Room Expansion, Medical Surgical Care Unit Renovations, Cardiac Telemetry System Upgrade and Orthopedic Office build out. Responsible for space planning, construction budgets and maintenance staff with on-call rotation.

The Troast Management Group, Inc., Paramus, NJ: Consultant, Project Management. Provided project management and construction management services for commercial and industrial projects for clients such as Movado Group, Stevens Institute of Technology and Cendant Corporation. Responsibilities include estimating, bidding, purchasing, construction supervision and billings. Projects

Frederick J. Eilinger, Jr., PE, continued

included: New cafeteria, 1200 sq. ft., for Movado Group, Paramus, Office space conversion/build out in Stevens Institute Campus library, Assisted management in bidding process for Commerce Bank, Home Depot and Home Expo projects, Directed construction of numerous projects for Cendant Corporation, Parsippany, NJ, Renovation of the Century 21 Department Store in Morristown, NJ.

St. Joseph's Hospital & Medical Center, Paterson, NJ: Manager of Construction for all phases of health based facilities capital improvements. Overall responsibilities include functional design through completion and commissioning. Projects included: construction of 50,000 Sq.-Ft. Out-Patient Dialysis Center valued at $12.5 million, Developed conceptual designs for Labor & Delivery Expansion, Cardiac Rehabilitation, Pediatric Sub-specialties office and other long-term initiatives, Directed construction of numerous smaller projects including an 8,000 Sq. Ft. Imaging Center; 7,000 Sq. Ft. Women's Medicine Suite, 5,000 Sq. Ft. Pediatric Emergency Services Area and 1000 Sq. Ft. Surgical Waiting Green house Area.

Chiquita Brands Co., North America, Montvale, NJ: Project Engineer: Designed construction documents for new construction and rehabilitation of corporate facilities. Basic construction management responsibilities included cost control, contract administration and on-site supervision. Projects included:

- Designed containerized cargo terminals in several states. Sites included a 12 Acre terminal in Gulfport, MS, 20 Acre terminal in Wilmington DE and a 25 Acre site in Rensselaer, NY. Scope included geo-technical stabilization, site infrastructure improvements, structural, plumbing and electrical design work, construction drawings and specifications.
- Directed and designed the renovation of waterfront facilities to convert existing break bulk discharge operations to unitized cargo facilities.
- Performed complete structural analysis and redesign of 450 feet long finger pier in Panama to allow conversion from rail based break bulk to truck based containerized cargo operations.
- Created and maintained a worldwide refrigerated vessel database for charter use by company including discharge characteristics for port of use evaluation.

LIPTON, Englewood Cliffs, NJ (now UNILEVER Best Foods): Manager, Corporate Facilities Engineering: Project manager and coordinator for all phases of plant/facilities engineering activities for thirteen production sites. Provided in-house engineering consulting services and ensured compliance with applicable codes and regulations. Assured facilities reliability through implementation of corporate standards and initiatives. ($28 million Annual Capital Budget).

Project work included: technical consulting and advisory services to senior management for long term planning and strategic initiatives; initiated national strategy and preferred vender program for roof replacement and repairs resulting in a 30% reduction in reactive roof maintenance expenditures; created database to assess manufacturing plant conditions to align budgets, reduce maintenance costs and diminish facility failures; negotiated prototype effort for compressed air efficiency evaluation, which resulted in a 25% reduction in related energy use at the alpha site and was applied corporate wide; selected, justified company CAD system for Facilities department resulting in a productivity improvement of 15%; developed and completed 2400 HP steam plant replacement project resulting in fuel cost savings of $250,000 annually and reduced manning requirements; directed the design and construction of a 120,000 CFM HVAC replacement with critical humidity control requirements; provided for a future intranet/ internet connection of all production sites for engineering documentation; reassessed West Coast production sites including physical inventory and asset replacement cost calculations resulting in an internal savings of $20 million; directed design and constructed new lobby, offices and cafeteria at primary production facility while assuring continued operations, phased construction and scheduling issues were paramount, project completed in budget and ahead of schedule.

Indhira A. Figuereo

Project Role: Project Engineer

Education

BS, Engineering Geology, The City College of New York, 2001

Professional Associations

Women's Transportation Seminar (WTS)

American Society of Highway Engineers (ASHE)

National Society of Professional Engineers (NSPE)

Professional Women in Construction (PWC), Former Member

Society of Hispanic Professional Engineers (SHPE), Chair, Advisors Roundtable

American Society of Civil Engineers (ASCE),Metropolitan New York Section, President, Younger Member Forum

Experience

Years with AECOM: 11
Years with other firms: 0

Employment History

1999-present: AECOM, Civil Engineer

1999AECOM, New York, NY, Civil Engineer

Ms. Figuereo has considerable experience providing civil engineering design and management services for various site development, highway, aviation, facilities, transit, and structural projects. Her experience includes the management of high-occupancy/ utilization spaces, agency and stakeholder coordination, state grants funding compliance, construction management and phasing, and coordination of ongoing construction with operations and utility relocations. Her experience also includes the development of technical reports, feasibility studies, detailed plan preparation in all phases of design (including logistics plans), environmental impact analyses, and quantity and cost estimating. Ms. Figuereo is also experienced in the use of the various technical/design computer programs, such as AutoCAD, MicroStation, StormCAD, SewerCAD, Adobe, and Microsoft Office (including Project, Access, Publisher, and Visio).

Port Authority of New York and New Jersey (PANYNJ) and New York City Economic Development Corporation (EDC), Forest Avenue Improvements, Staten Island, New York: As project engineer, coordinated and assisted in performing engineering design services and preparing final design and contract documents, and performing post award services for the proposed improvements at Forest Avenue. Duties include the design of the roadway resurfacing and widening, drainage improvements, new overhead sign structure, permitting submissions to NYCDEP and NYCDOT, and construction cost estimates and technical specifications.

American Airlines, Terminal 8 Reconstruction, JFK Redevelopment Project, John F. Kennedy International Airport, Jamaica, New York: As the design engineer, worked on the engineering design and construction for civil landside design elements for the complete reconstruction of Terminals 8 and 9. Provided construction administration assistance and civil engineering design for a new elevated departure roadway. Designed utility relocations in coordination with the new terminal and airside facilities. Other responsibilities included responses to shop drawings and RFIs.

Lincoln Center for the Performing Arts, Inc., Project Management Services for the Harmony Atrium Revitalization Project, New York, New York: Project manager in charge of the renovation of an 11,000–square foot privately owned public space, The David Rubenstein Atrium at Lincoln Center. This US$25 million facility will serve as a central information center and visitor services hub for Lincoln Center and community organizations in the surrounding neighborhood. The space will feature free-to-the-public performances/events, food service, restrooms, and Wi-Fi access. As project manager, duties include acting as owner's representative regarding the design, procurement, and construction of the project; monitoring the work of technical/design consultants; and review and approval of project payments and project schedule. Responsible to review and reconcile cost estimates; lead the preparation, negotiations, and award of contracts and contracts close-out; prepare cost reports; and preside on project management meetings and lead value engineering review meetings. In addition, managed agency and stakeholder coordination to procure and obtain various approvals for the design and construction phases of the project.

Indhira A. Figuereo, continued

Approvals include Public Design Commission, Community Board 7, City Planning Commission, Department of Environmental Protection, Department of Buildings, and Fire Department of New York. Also procure and obtain agency approvals for funding from the Department of Design and Construction and Dormitory Authority of New York. Obtaining funding compliance with these agencies was significant in order to obtain reimbursement. Also, oversee compliance of LEED requirements from the designer and construction manager.

Port Authority of New York and New Jersey (PANYNJ), Program Management - Engineering Department, Newark, New Jersey: Consultant engineer responsible for the development of metrics to allow the engineering department to gauge progress and performance. Also managed and prepared information for the chief engineer to present to the board of commissioners of the port for approval of several mega-projects in the States of New York and New Jersey.

Port Authority of New York and New Jersey (PANYNJ), CTA Frontage Roadway Improvements at Newark Liberty International Airport, New York: As design engineer, developed the maintenance of traffic plans for the rehabilitation of the departures frontage ramps for terminals A and B. Duties included the final design of plans, details, and cross sections.

Port Authority of New York and New Jersey (PANYNJ), CTA Frontage Roadway Improvements at Newark Liberty International Airport, New York: As design engineer, developed the maintenance of traffic plans for the rehabilitation of the departures frontage ramps for terminals A and B. Duties included the final design of plans, details, and cross sections.

Port Authority of New York and New Jersey (PANYNJ), Cyclical Condition Survey of Pier Sheds at Piers 6 and 8, New York Marine Terminal, Brooklyn, New York: As engineer, prepared a condition survey report describing deficient conditions in multiple warehouse facilities.

Port Authority of New York and New Jersey (PANYNJ), LaGuardia Airport Improvements Project, New York: As engineer, assisted in traffic and transportation studies. Conducted field investigations and traffic data collection (such as vehicle volumes and dwell times). The City of Glen Cove, Glen Cove Feery Terminal Water Borne and Site Improvements, Glen Cove, New York: As lead engineer, coordinated and assisted in the design, cost estimate, and specifications preparation for The Glen Cove Ferry Terminal site, located within the City of Glen Cove. This US$14 million terminal is a new transportation facility to be constructed on a former brownfield site. The facility will provide the docking and passenger terminal for two commuter ferries.

National Infrastructure Development Company, Lt., Causeway from Mucurapo to Chaguaramas in Trinidad, Trinidad and Tobago: As project engineer, prepared the preliminary design documents for the construction of a causeway from Mucurapo to Chaguramas in the southwest end of the Island of Trinidad. The proposed causeway, approximately 7 kilometers long, will run parallel to Western Main Road to alleviate traffic congestion along Western Main Road and provide a fast and direct connection between Carenage and Fore Shore Lookout. Duties include the development of the design alternatives and order of magnitude construction cost estimates.

MTA Metro-North Railroad (MNR), Design and Construction Services for Yankee Stadium Train Station, Bronx, New York: As civil task lead, prepared and designed the drainage system, utility relocation plans, and details for the track realignment and the new station. Duties included the development of design-build drawings, cost estimates, and coordination with utility owners.

New York City Department of Sanitation (DSNY), Seven New Marine Transfer Stations, New York City, New York: As the design engineer, designed the ramps structures drainage, drainage calculations, and developed drainage details for the conversion of seven marine transfer stations into containerized, intermodal facilities. The project allows DSNY to containerize garbage for the placement into barges for transport to various locations.

Michael Garbolski, PE

Project Role: Project Manager

Education
BSc, Civil Engineering, University of Connecticut, 1980

Registrations
PE: CT, 1985, Registration No.: [redacted]
PE: FL, 1999, Registration No.: [redacted]
PE: MA, 1996, Registration No.: [redacted](Civil)
[redacted]istration No.: [redacted]
PE: NY, 1994, Registration No.: [redacted]

Professional Associations
American Society of Civil Engineers (ASCE)

Experience
Years with AECOM: 17
Years with other firms: 12

Employment History
1993-present: AECOM, Civil Project Manager
1978-1978: Fuss & O'Neill Engineers, Manchester, CT, Survey Rodman
1979-1979: Fuss & O'Neill Engineers, Manchester, CT, Survey Rodman
1980-1981: Kasper Associates, Inc., Vernon, CT, Survey Rodman
1981-1982: Hayden, Harding & Buchanan, Inc., East Hartford, CT, Project Engineer
1982-1985: Town of Simsbury, Simsbury, CT, Project Engineer
1985-1986: A.R. Lombardi Associates, Inc., Vernon, CT, Project Engineer
1986-1993: Ed Lally & Associates, Inc., Windsor, CT, Project Manager

Mr. Garbolski is a senior project manager with extensive general civil engineering experience. He has recently focused on project management, implementation, and coordination of marine, transportation, and public infrastructure projects. He has worked on major facilities such as marine and container terminals, airports, and federal and state installations and correctional facilities, with a special focus on site development, grading, paving, drainage and utilities. His experience includes field investigations, study reports, preparation of contract documents, construction administration, and public presentations. Mr. Garbolski is also experienced in the preparation of environmental permit applications pertaining to land improvement. More recent experience includes physical security measures such as perimeter strengthening and guard post hardening at major airports and other facilities.

Vehicle Security Center and Tour Bus Parking Facility, World Trade Center (WTC), New York, New York: Lead civil engineer for design and construction phase services for secure vehicle access facility to WTC basement areas and tour bus parking for the WTC Memorial, including anti-ram vehicle barriers and guard post hardening.

Terminal B At-Grade and Terminal Bollard Protection at Terminal Frontage, Newark Liberty International Airport, Newark, New Jersey: Project manager and project engineer for multi-discipline, fast-track schedule effort producing contract documents for an anti-ram vehicle barrier system at terminal arrivals, departures, and at-grade frontages involving structural and utility elements on both terminal structure and at-grade facility.

Perimeter Strengthening, LaGuardia Airport, John F. Kennedy International Airport, and Newark Liberty International Airport, New York, and New Jersey: Project manager for the design and construction-phase services for a vehicle crash protection barrier and fencing on the aviation operations area perimeter at New York metropolitan area airports, managing civil, structural, electrical and traffic elements.

City of Bridgeport, Emergency Operations, Dispatch Center, and Vehicle Storage Building, Bridgeport, Connecticut: Lead civil engineer for this challenging construction of the city emergency facility and public works complex on an industrial brownfield site involving site preparation, drainage, and utilities.

Port Ivory Express Rail, Howland Hook Marine Terminal, Staten Island, New York: Project manager for design and construction services for an 11-track on-dock intermodal rail yard; multi-discipline effort on a brownfield site with considerable soils, grade, utility, and boundary challenges. The project involved environmental permitting as well as city and state permits for three lead-track grade crossings of NYC Streets.

Elizabeth Port Authority Marine Terminal, Elizabeth, New Jersey: Project manager and lead civil engineer responsible for the technical direction and production of this project. Responsible for inspection and structural evaluation of specialty utility structures and drainage discharge studies.

Michael Garbolski, PE, continued

Port Authority of New York and New Jersey (PANYNJ), Port Newark, Newark, New Jersey: Project manager responsible for the technical direction and production of the container terminal upland paving and utilities, water main replacement, access roadways, and pavement rehabilitation. Services included field investigations, design, preparation of contract drawings and specifications, and construction cost estimates.

Elizabeth Port Authority Marine Terminal, ExpressRail, Elizabeth, New Jersey: Stage I study, design-build contract documents and construction-phase services. Project manager and lead civil engineer for preparation of preliminary design and documents for an 18-track on-dock intermodal yard.

New Ferry Terminal sanitary sewer and water service connections, Battery Park City, New York, New York: Project civil auditing engineer assigned by the Port Authority to audit civil design effort by consultant.

Port Authority of New York and New Jersey (PANYNJ), Brooklyn Marine Terminal, Brooklyn, New York: Project manager for pier 7 upland paving and utilities, as well as pier 6 cocoa storage tents. Services included field investigations, design, preparation of contract drawings and specifications, and construction cost estimates.

U. S. Federal Aviation Administration (FAA), National Airport Pavement Testing Machine Facility, Atlantic City, New Jersey: Project civil engineer responsible for site, drainage, and utilities design and pinelands permit.

U. S. Immigration and Naturalization Service, Federal Detention Facility, Batavia, New York: Project manager responsible for site, drainage, and utilities design on this design-build project.

Port Authority of New York and New Jersey (PANYNJ), Lincoln Tunnel, New York, New York: Project manager and civil engineer for the replacement of bus ramp drains, and for a study of existing sewers and emergency sanitary sewer repair. Conducted a study of existing sewers and emergency sanitary sewer repair.

Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Tenant Parking Pavement Rehabilitation, Newark, New Jersey: Project manager for parking pavement rehabilitation, responsible for preparation of contract documents for repair and rehabilitation of tenant parking.

Port Authority of New York and New Jersey (PANYNJ), Holland Tunnel, New York, New York. Project manager for drainage improvements, responsible for developing custom drainage solution directly above tunnel portal structure.

Port Authority of New York and New Jersey (PANYNJ), JFK International Airport, New York, New York. Project manager for fuel truck parking pavement rehabilitation, responsible for preparation of contract documents for repair and rehabilitation of fuel truck parking. Project Name: Pat ilis num vulputpat lore voloreet utem quisim quam velent lorper se min hendit venit velit velisis augue tat. Duis nosto ea feum zzriurem acip ex exeriureet luptat at nisim vendit lore commodo dolobor alissequat praesequisi.

Paul F. Giovanelli, PE

Project Role: Project Manager

Education

MS, Industrial Administration (Business), Purdue University, NY, 1983

ME, Environmental Engineering, Manhattan College, NY, 1973

BS, Chemical Engineering, Manhattan College, NY, 1972

Registrations

PE: NJ, 1995, Registration No.: [redacted]

PE: NY, 1984, Registration No.: [redacted]

Experience

Years with AECOM: 19
Years with other firms: 18

Employment History

1991-present: AECOM, Transportation and Program Manager

1988-1991: Metcalf & Eddy, New York, NY, Sr. Project Manager

1982-1988: Oneida County, Utica, NY, Administrator & GM Oneida County Sewer District

1973-1982: USEPA, New York, NY, Project Manager

Mr. Giovanelli has extensive program and project management experience on a broad range of planning, design, and construction projects. He managed roadway improvement, commuter transportation, intermodal facility and energy projects with high visibility (WTC Restoration - PATH Exchange Place Station) and of a "mission critical" nature (Port Elizabeth ExpressRail Intermodal Transfer Facility). Additional experience includes hazardous materials remediation and wastewater treatment at the federal, state, and local levels. In the design-build arena, he has managed projects from both the contractor and the client perspective.

In his current assignment, Mr. Giovanelli has spent ten years "on site" in the Engineering and Port Commerce Departments of the Port Authority of New York and New Jersey. Here he completed his most critical project: the overhaul, restoration, and tunnel extension of PATH's terrorist-damaged Exchange Place below-grade commuter rail station and trans-Hudson tunnels. As the only non-PA Program Manager, he oversaw and directed the development of $70 million in projects involving 15 major contract task orders and 12 design consultants.

In the last ten years, his client, the Port Authority chose only Mr. Giovanelli to serve as the Manager on every roadway and intermodal facilty project in Port Elizabeth. Between the 4 phases of the widening, realignment and grade separation of the major Port arterial and the 5 phases of the new 18-track ExpressRail Intermodal facility he successfully managed from planning to conclusion over $200 million in capital works. In this role he met the competing needs of client and users (Port Commerce, Port Redevelopment Capital Projects, Maher Terminals, APM Terminals, CONRAIL, and private property owners).

Demonstrating his versatility, Mr. Giovanelli now manages the Shore Power (cold ironing) Project at the PA's Brooklyn Cruise Terminal. This first-of-its-kind on the East Coast, $15 million sole source, USEPA Grant funded project enables docked ships to run on shore-based electricity instead of on-board, diesel engines reducing significantly the carbon footprint.

Brooklyn Cruise Terminal Shore Power, Port Authority of New York and New Jersey, Brooklyn, New York: Project Manager for the design and engineering services during construction of a new $15 million Shore Power (cold ironing) Project at the PA's Brooklyn Cruise Terminal. This first-of-its-kind on the East Coast, USEPA Grant funded project enables docked ships to run on shore-based electricity instead of on-board, diesel engines significantly reducing the terminal's carbon footprint.

Port Street Capacity Improvements, Port Authority of New York and New Jersey, Port Newark, New Jersey: Project Manager for the planning for a $70 million complete re-configuration of the Port Newark/Port Elizabeth north entrance roads. Sharp turns, flooded roadbeds, six grade crossings and capacity limits drive this significant overhaul. The challenge: reduce costs and complete the work while keeping the traffic flowing.

McLester Street Widening (Phase 4 – Port Elizabeth Roadway Improvement Program), Port Authority of New York

Paul F. Giovanelli, PE, continued

and New Jersey, Port Elizabeth, New Jersey: Program Manager for the planning, design and engineering services during construction for a $20 million widening of a section of the main N/S arterial through Port Elizabeth Marine Terminal. This is the final roadway project to upgrade the Port Elizabeth roadways to handle the expected increased truck container traffic.

ExpressRail Second Lead Track and South Bay Avenue (Phase 2 – Port Elizabeth Roadway Improvement Program and Phase 5 – Port Elizabeth Intermodal Facility Replacement), Port Authority of New York and New Jersey (PANYNJ), Elizabeth, New Jersey: Program manager for the planning, design and engineering services during construction for the $15 million second, parallel, "lead" track from the main line into the new ExpressRail intermodal transfer facility. The second of four roadway projects upgrading Port Elizabeth roadways and the fifth and final phase of the new ExpressRail Intermodal facility, the project is critical to handling the projected needs of the terminal's intermodal operations by adding and separating the lead tracks for the newly constructed ExpressRail facility from a major roadway.

ExpressRail Tracks 11-18 (Phase 4 – Port Elizabeth Intermodal Facility Replacement), Port Authority of New York and New Jersey, Elizabeth, New Jersey: Program Manager for the design and engineering services during construction for the $16 million Phase 4 of the new 18-track intermodal transfer facility. The project must incorporate the experiences and decisions made on Phases 1 and 2 of this project. The project schedule is on critical path for the transfer of 85 key acres of terminal lease space. Project construction must be staged to comply with tenant lease conditions and on-going port operations.

ExpressRail Tracks 9 & 10 (Phase 3 – Port Elizabeth Intermodal Facility Replacement), Port Authority of New York and New Jersey (PANYNJ), Elizabeth, New Jersey: Program Manager for the design and engineering services during construction for the $20 million Phase 3 of the new 18-track intermodal transfer facility. The project must incorporate the experiences and decisions made on Phase 1 of this project. The project schedule is on critical path for the transfer of 85 key acres of terminal lease space. Project construction must be staged to comply with tenant lease conditions and on-going port operations.

Design-Build of Intermodal Transfer Facility: Tracks 1 to 8 (Phase 2 – Port Elizabeth Intermodal Facility Replacement), Port Authority of New York and New Jersey (PANYNJ), Elizabeth, New Jersey: Program Manager for the $30 million design-build of Phase 2 of an 18-track intermodal transfer facility. The project includes automated turnouts, and accommodations for transferring 80-ton containers between railway flat cars and tractor trailers with 120-ton rubber-tired gantry (RTG) cranes, straddle carriers, and reach stackers. The project schedule is on critical path for the transfer of 85 key acres of terminal lease space.

ExpressRail Lead Track Relocation Over McLester Street Depressed Roadway (Phase 1 – Port Elizabeth Roadway Improvement Program and Phase 1 – Port Elizabeth Intermodal Facility Replacement), Port Authority of New York and New Jersey, Elizabeth, New Jersey: Program Manager for the engineering services during construction of a new $25 million "lead" track from the main line into the new ExpressRail intermodal transfer facility. The first of four roadway projects upgrading Port Elizabeth roadways and first of five intermodal facility replacement projects, the project included the construction of a 100 by 300-foot slurry-wall "bathtub" and depressing a major terminal artery so that traffic could flow unimpeded under a new lead track.

Removals and Paving and Utilities at Former ExpressRail Facility, Port Authority of New York and New Jersey (PANYNJ), Elizabeth, New Jersey: Project manager for the planning, design and engineering services during construction for the $5 million demolition of the existing Authority's Port Elizabeth ExpressRail and the subsequent resurfacing and utility strengthening to accommodate the container staging and storage needs of the terminal's leased operations. The project schedule is on critical path for the transfer of 85 key acres of terminal lease space. Project construction must be staged to comply with tenant lease conditions and on-going port operations.

Frank Grande, PE

Project Role: Project Manager

Education

BS, Civil Engineering, Polytechnic Institute of New York, 1978

Registrations

PE: NY, 1989, Registration No.: [redacted]

PE: NJ, 2007, Registration No.: [redacted]

PE: WV, 2008, Registration No.: [redacted]

Professional Associations

American Society of Civil Engineers (ASCE)
American Society of Highway Engineers
Municipal Engineers of the City of New York

Experience

Years with AECOM: 14
Years with other firms: 20

Employment History

1996-present: AECOM, Transportation Group Manager

1978-1979: URS/Madigan - Praeger, New York, NY, Project Manager

1979-1990: Basil-Morrissey, New York, NY, Project Manager

1990-1993: OPA Engineers, New York, NY, Project Manager

1993-1996: Rust E&I, New York, NY, Project Manager

1996-2008: Earth Tech, New York, NY, Transportation Group Manager

Mr. Grande has more than 30 years of experience in management, planning, design and construction inspection of highways, municipal streets, bridges, buildings and marine structures. He has been actively involved in all aspects of planning, design, estimating, construction management and supervision of field inspections. He is currently transportation group manager for the highway/bridge group in New York City. He has serves served as senior project manager, designer and resident engineer on many projects and is proficient at coordinating the technical and administrative efforts on multidisciplinary projects and the preparation of contract documents and proposal materials. His areas of expertise include evaluation, rehabilitation, design, and construction management for highway and street improvements; bridges; buildings; marine structures.

Palisades Interstate Parkway Connector Ramp Stage 3; Port Authority of New York and New Jersey, Bergen County, New Jersey: Project manager for revising and updating the 2004 contract documents to accommodate the revised ramp profile and update the structural designs to the current structural codes for two bridges and retaining walls supporting the new connector ramp to the lower level of the George Washington Bridge. The project also included the redesign of a simple span bridge over Hoyt Avenue. The elevated ramp structures include a 28.5-foot widening of an existing 373-foot-long, 5-span continuous/simple span bridge over the GWB approach; a 35 feet 9 inches wide by 280 feet long, 3-span continuous curved ramp bridge over Hudson Terrace; a 200-foot-long by 35-foot-high retaining wall, and strengthening of 200 feet of existing 25-foot-high retaining wall with rock bolt tie backs.

Tappan Zee Bridge and I-287 Corridor Environmental Study; New York State Department of Transportation, New York State Thruway Authority and Metropolitan Transportation Authority, Rockland and Westchester Counties, New York: Engineering task manager for development of conceptual engineering designs for highway and transit improvement alternatives for the study to address the mobility needs of the 30-mile corridor from Suffern in Rockland County to Port Chester in Westchester County. The study goals are to identify the best comprehensive alternative for improving mobility in the corridor and to determine its environmental impacts. Alternatives considered include rehabilitation of the existing bridge, a new bridge and/or tunnel across the Hudson River, highway improvements to a 12-mile Thruway corridor in Rockland, and implementation of new transit modes to the corridor including bus rapid transit and commuter rail. AECOM is providing the AA/EA/EIS services that will include all planning forecasts and environmental analysis required for intermodal alternative planning and development.

Blackfork Bridge Construction Support Services; West Virginia Department of Transportation, Parsons, Tucker County, West Virginia: Project manager for construction support services for construction of the Blackfork Bridge over the Cheat River (Bridge No. 1587) on Route No. 219. Managing review of shop drawing submittals for steel girders,

Frank Grande, PE, continued

steel diaphragms splices details, and elastomeric bearings and response to contractor's requests for information.

Blackfork Bridge; West Virginia Department of Transportation, Parsons, Tucker County, West Virginia: Project manager for the $7 million replacement of the Blackfork Bridge, a 585-foot-long structure over the Blackfork of the Cheat River and approach roads. Managed span arrangement studies, type size and location studies, and final design. Managed approximately 2,000 feet of roadway reconstruction, right-of-way plans, hydraulic and scour studies, and geotechnical investigations. The AASHTO LRFD Code was used for the design.

Shawnee Highway; West Virginia Department of Transportation, Raleigh County, West Virginia: Project manager for the study, design and preparation of construction contract documents for a 1.8-mile section of a new two lane arterial from the I-77 Ghent Interchange to the Raleigh/Mercer County Line. The project includes the reconstruction of one mile of CR 48 and an at-grade intersection with the proposed highway. The project won the 2005 Engineering Excellence award for roadway design from the WVDOT Division of Highways.

NYCDEP Combined Sewer Relocation Study, Arup & New York City Transit Capital Planning Division, Nostrand Avenue and Avenue H, Brooklyn, New York: Project manager for a feasibility study to relocate a NYCDEP pile-supported, twin 180-inch combined sewer that is in direct conflict with a proposed extension of the subway tunnel at the Flatbush Avenue Station Terminal. An inverted siphon that met NYCDEP design criteria was designed to pass beneath the proposed subway tunnel. The study determined the feasibility of constructing the 40-foot-wide by 160-foot-long facility 45 feet below grade while maintaining the flow capacity of the combined sewer with bypass piping. Adding to the complexity were site constraints of existing buildings along both sides of a narrow utility-filled right of way within a highly congested commercial area. The study included preparation of conceptual level plans and typical sections that demonstrated the means, methods and materials to remove the existing sewer, provide temporary bypass piping, maintain the existing utilities, and construct the inverted siphon and subway tunnel over the siphon while maintaining both pedestrian and vehicular traffic on the streets above. The estimated total project cost was $25 million with an estimated construction time of 18 months.

Bellew Avenue Reconstruction; City of Watertown, Watertown, New York: Project manager for the design of the reconstruction of a minor arterial on an accelerated schedule. The project includes preparation of design report, preliminary plans and construction documents in 12 months. Design elements included pavement design, a new water main, rehabilitation and conversion of the existing combined sewer into a sanitary sewer and providing a new storm sewer.

Coalfields Expressway; West Virginia Department of Transportation, Raleigh County, West Virginia: Project manager for design of a 3-mile section northwest of Sophia connecting to Route 16 in Raleigh County for the West Virginia Department of Highways. Coalfields Expressway is a controlled-access divided arterial consisting of four 12-foot lanes with a 46-foot-wide median and a design speed of 65 mph. A direct connection is provided to existing 5-lane Route 16 at the northern terminus of the project. At the expressway crossing over Route 54, a diamond interchange is provided with twin 3-span bridges. Five separate construction contracts were prepared including complete Right-of-Way Plans.

Reconstruction of I-287 from the Tappan Zee Bridge, to Interchange 8; New York State Thruway Authority, Westchester County, New York: Project engineer for planning and design for the reconstruction and widening of this 1.8-mile section, which handles 140,000 vehicles per day. Includes dual 2,000-foot viaducts to widen roadway across the Talleyrand Swamp and a major interchange redesign.

Rehabilitation of the Long Island Expressway, Queens Midtown Viaduct to Grand Central Parkway; New York State Department of Transportation - Region 11, , Queens, New York: Senior engineer in charge of overhead sign structure designs, retaining wall designs and sound barriers for the rehabilitation of 5.5 miles of roadway and the rehabilitation/replacement of 27 bridges.

George Greenberg, PE

Project Role: Project Scheduling

Education

MS, Industrial Engineering, New York University, 1968
BE, Electrical Engineering, City College of New York, 1967

Registrations

PE: NY, 1973, Registration No.: [redacted]

PE: NJ, 1978, Registration No.: [redacted] Civil)

Experience

Years with AECOM: 11
Years with other firms: 27

Employment History

1999-present: AECOM, Scheduler

1972-1979: Burns & Roe
1979-1996: Bainbridge Building and Construction Services

1996-1999: Linde U.S.A., division of Linde Chemical Company

Mr. Greenberg has extensive experience in preparing, upgrading, and analyzing engineering, procurement, construction, installation, and start-up CPM schedules and cost reports. His assignments have included subway and commuter railroads, tunnels, roadways, power plants, and buildings. He was the senior scheduling engineer responsible for project control, scheduling, cost reporting, and document control for a five-year period on both the Atlantic Avenue and 72nd Street Station construction projects. He served from construction start-up through completion and acceptance by NYCT. Both projects included significant electric and electronic elements, including lighting, fare entry, token booths, gates, and CCTV cameras. His additional rail/transit experience with electrical and electronic equipment and security components includes the WTC PATH Terminal and the NJT Re-electrification projects, consisting of lighting, signals and communications, control centers, fencing, barriers, public address systems, and CCTV systems.

World Trade Center PATH Terminal, Port Authority of New York and New Jersey (PANYNJ), New York: Construction scheduling for alternate phasing and design for a permanent passenger terminal at the World Trade Center site, including the Calatrava terminal hall and station. The approximate construction cost is $2.2 billion.

Newark Airport, Terminal B, Newark Airport: This project is intended to upgrade Terminal B at Newark International Airport. Prepared integrated Level 1 and Level 2 schedules for Terminal B upgrade. The Level 2 schedules were prepared with the engineering Project Managers and integration of schedules provided by others. Schedules were for engineering, procurement, and construction, through acceptance and encompassed the entire scope of work including tenant relocations. Schedules were developed and updated, working closely with the operations staff and other key members. Site visits to Terminal B were frequent to maintain communications. Extensive interaction with Port authority staff was involved in gathering data, assessing progress, and mitigating problems.

Various Projects for The Port Authority of New York and New Jersey from June 2007- Jun 2008: Provided planning and scheduling support to the Project Management department for multiple aviation projects at EWR, TETERBORO, JFK and LGA airports. This included preparation and updating of Master Program schedules for all projects at each airport and individual project schedules for projects from conceptual design, design development and Final Design phases thru procurement, contract award and construction. In addition, prepared construction feasibility schedules ranging from $150M Runway Rehabilitation to the installation of transformers to meet critical completion deadlines. Various detailed schedules for engineering design services were also prepared.

These Schedules allow the PA to schedule all aspects of the project delivery process i.e. to design, procurement and construction efforts, for greater alignment with the PA Board approval schedules process.

Examples of the most recent schedules

George Greenberg, PE, continued

prepared for JFK Airport were:

- Master Schedule for JFK airside projects;
- Project Schedule for replacement of the Bay Runway, the longest runway at JFK Airport, to accommodate the A380 Airbus (14,000 feet long, 250 feet across);
- construction schedules for poured-in-place concrete, slip form concrete, asphalt, runway lighting and electric duct; and
- the program schedule for the New Delta Terminal Complex.

Other Schedules prepared include:

- Teterboro - Runway 19 EMAS Installation and the Relocation of Redneck Ave.;
- Teterboro – Airside Master Program Schedule;

Other Port Authority of New York and New Jersey projects:

- EWR - Various projects at North Area and Transformer Installations;
- EWR - Airside Master Program Schedules;
- EWR – Terminal B Construction Projects Schedule Updates (Roads, Connectors, Lower Level Expansion, Baggage Handling.);
- EWR – Terminal B Mid and Upper Levels – Updating Phasing Plans and Schedules; and
- LGA Airside Paving Project .

The Port Authority of New York and New Jersey JFK Runway Project: Responsible for project scheduling for the design and reconstruction of JFK's longest runway($348 million). The Bay Runway was widened to accommodate new large aircraft and surfaced with concrete instead of asphalt to provide for a 40-year useful life of the runway. Construction included delay reduction improvements to taxiways for Runway 13R-31L to increase operational efficiencies and reduce air traffic delays of approximately 10,485 hours annually. Lighting and electrical infrastructure was also upgraded. Minimized customer impacts by working closely with JFK operations, the FAA and airlines on the detailed construction staging and operating plans. These plans included scheduling the runway closure during the non-peak travel season, using different runway configurations to better utilize existing capacity and flight schedule adjustments by the airlines.

72nd Street Station, Metropolitan Transit Authority (MTA) - New York City Transit, New York: Senior scheduling engineer for expanding the tunnel to allow for a wider platform (track realigned). This project rehabilitated station platforms, provided new electric service, constructed a new entrance house (including two elevators), constructed a plaza, and rehabilitated the historical entrance house. The cost was approximately $36 million.

PATH Permanent Station & Termina: As Project Scheduler, prepared initial Level 1 and Level 2 Project schedules. This project is intended to replace the temporary PATH Station constructed after events of September 11, 2001. It consists of a Terminal Entrance Hall through an oculus of steel and glass above grade with a Memorial Hall below grade. At a level below is the Station Mezzanine and below that 6 tracks for the PATH System World Trade Center Station. This Terminal and Station were designed by Santiago Calatrava as part of the program to rebuild the World Trade Center. The Construction Cost is estimated at approximately $1.3 B.Schedules were for Engineering, Procurement, Construction, thru Acceptance and encompassed the entire scope of the project.

PANYNJ, Design and reconstruction of JFK's Bay Runway: responsible for project scheduling. The Bay Runway was widened to accommodate new large aircraft and surfaced with concrete instead of asphalt to provide for a 40-year useful life of the runway. Construction included delay reduction improvements to taxiways for Runway 13R-31L to increase operational efficiencies and reduce air traffic delays of approximately 10,485 hours annually. Lighting and electrical infrastructure was also upgraded. Minimized customer impacts by working closely with JFK operations, the FAA and airlines on the detailed construction staging and operating plans. These plans included scheduling the runway closure during the non-peak travel season, using different runway configurations to better utilize existing capacity and flight schedule adjustments.

Edward D. Hammond, PE

Project Role: Project Manager

Education

MS, Civil Engineering, Massachusetts Institute of Technology, 1972

MS, Economics, Massachusetts Institute of Technology, 1972

MBA, Business Administration, Long Island University, NY, 1978

BS, Civil Engineering, U.S. Military Academy, West Point, 1968

Registrations

PE: VA, 1976, Registration No.: [redacted]

Professional Associations

MassPort Designer Selection Panel, External Member

Society of American Military Engineers (SAME) Fellow

SAME, Boston Post Treasurer
American Society of Civil Engineers

Experience

Years with AECOM: 4
Years with other firms: 30

Employment History

2006-present: AECOM, Senior Project Manager

Mr. Hammond is a registered professional engineer with extensive private and public program management experience. He managed a five-year capital program of $643 million involving over 150 projects at Logan International Airport. Served as the project manager for the $45 million multifaceted design/construct program at the 110-acre Michigan Superfund site. He was deputy division engineer for a series of design/construct civil works and military-funded projects with the Corps of Engineers. Mr. Hammond supervised up to 150 professional personnel; managed various annual programs totaling over $120 million. He demonstrated the ability to apply CERCLA, RCRA, NEPA, OSHA, state regulations, and the New England Corps of Engineers permit program as managing director of the environmental impact statement for the $14 billion Central Artery/Tunnel project in Boston. He was also responsible for key approvals allowing the project to receive funding and proceed.

Port Authority of New York/New Jersey, LaGuardia Airport, Queens, New York: Senior project manager for infrastructure improvement projects, including passenger terminal heating and cooling system upgrades, domestic and high pressure water system improvements, and sanitary ejector system improvements in terminal facilities. Managed projects from project definition through design and construction.

San Diego International Airport, San Diego, California: Senior project manager, for key capital improvement projects, including passenger terminals fire alarm system, electrical upgrade and capacity improvement, and restroom expansion and upgrade. Developed project definition, schedules, budgets, and contract documents for on-going projects, and for new projects being added to the capital program.

TSSC-III, Federal Aviation Administration (FAA) New England Region, Various Locations: Resource administrator providing technical services support for the Federal Aviation Administration, New England Region. Supervised engineering staff in execution of projects for FAA airways facilities program. Responsible for technical, financial, and administrative supervision of engineering services supporting the FAA design, installation, construction supervision, contract procurement, and cost estimating

Capital Programs, Logan International Airport, Boston, Massachusetts: As program manager, executed design and construction of the Logan landside capital program, which included managing a five-year capital program budget of $643 million involving more than 150 projects. Developed scope, schedules, cost estimates and justification. Directed five project managers, and numerous consultants and contractors in execution of terminal, cargo building, roadway, parking garage, and utility projects at Logan International Airport, Hanscom Field, and Worcester Regional Airport. Analyzed alternatives for additional parking at Logan. Obtained approval to construct additional floors on the central garage. Performed utilities and roadway coordination and project integration for multi-million dollar terminal projects. Coordinated the design of a $140 million new addition to Terminal B, as well as Massport approval process

Edward D. Hammond, PE, continued

of American Airlines schematic design for a $330 million addition. Supervised the Massport approval process of a new Terminal A design. Supervised the $78 million Massport budget component of this $475 million project. Responsible for reducing Massport's exposure from $90 million to $78 million, and for enabling issuance of $500 million of bonds for the project. Managed the purchase of the Framingham Logan Express site; and supervised the Peabody site acquisition process and Framingham parking garage design.

Rose Township Superfund Site, Detroit, Michigan: Program manager responsible for all design and construction activities for this complex, highly contaminated 110-acre Superfund site in suburban Detroit. Completed fast track incineration of 33,800 tons of PCB-contaminated soil in less than one year at $6 million under projected "record of decision" costs. Managed the design, installation, and startup of a soil vapor extraction system in a six-month period. Conducted treatability studies for a 400 gpm groundwater treatment plant to meet cleanup levels for VOCs, lead, and arsenic in the groundwater. Expedited pre-design studies, design procurement, installation, operation, and maintenance of an interim groundwater treatment system. Conducted on-site pilot tests for soil vapor extraction, UV oxidation, and air stripping for VOCs in the soil and groundwater. Conducted an on-site open house and supported public meetings to satisfy concerns about on-site incineration.

Boston Central Artery Tunnel Project, Boston, Massachusetts: As manager for environmental services, directed completion of the environmental impact statement for the multi-billion dollar Central Artery/Tunnel Project in Boston. Successfully negotiated with EPA regulators in region I and in Washington on the application of environmental regulations. Completed the EIS as scheduled; the document withstood multiple challenges from parties interested in this highly visible and publicly sensitive project. Developed an innovative disposal plan for 11 million cubic yards of soil to be excavated from congested urban areas. This removed the last key obstacle to project approval. Managed the investigation, sampling, and analysis to characterize contaminated materials for excavation and disposal.

Joseph Hand, AIA, LEED AP

Project Role: Project Manager

Education

BArch, Syracuse University
Diploma in Construction Management, New York University

Registration

RA: NJ, HI

Professional Associations

American Institute of Architects

Employment History

1996-present: AECOM, Architect- Architecture

Mr. Hand is an architect with over 25 years of experience in the design and construction of public, high-rise, and commercial buildings. His expertise is in managing teams of architects and consultants for large and complex projects typically over 200,000 sf. He is experienced in the design and coordination of advanced building technologies with expertise in exterior wall systems.

The Port Authority Trans-Hudson World Trade Center Transportation Hub, New York, NY: Working in collaboration with Santiago Calatrava, Mr. Hand is the architecture manager for the Permanent PATH Station reconstruction at the World Trade Center. He is responsible for the development of designs, details and documents for the new $3 billion transit station and public concourses.

Rawabi, Palestine: Rawabi is the first Palestinian master planned community. It will accommodate a population of over 30,000, promote sustainable, urban living and provide home ownership for the emerging Palestinian middle class. The city will provide one million 5000 residential units in various sizes and configurations. The city is crowned by the 1.8 million sf Town Center including 300,000 sf of retail, entertainment restaurants, and a 200 room business class hotel.

Brooklyn Federal Courthouse, New York: Project Architect for the Exterior wall design and detailing which incorporated security upgrades for the 19-story stone clad federal courthouse and office building , a joint venture project with Caesar Peli Associates and HLW International.*

Honolulu Rapid Transit , Honolulu, HI: Designed 3 stations for the 17 mile transit system, with community participation. Developed pricing documents for a vendor proposal for transit stations and facilities along with Public Private development proposals to fund the project. An AECOM project

New York Times Building, New York, NY: Working in collaboration with Renzo Piano Building Workshop, Mr. Hand was the project architect for this 1.5 million sf 52-story office tower. His responsibilities included the development of designs, details and documents for the high-rise. The building was designed to contain a ground level auditorium, cafeteria, function space, retail and restaurants in Midtown Manhattan.

1540 Broadway, New York, NY: Known as one of the most prestigious corporate addresses, 1540 Broadway is a 42 story commercial high-rise building located in Times Square, New York City. As Project Architect Mr. Hand was responsible for developing construction documents and oversaw the construction of the post-modern glass curtain wall. In addition to office space, the building has cinemas, a retail atrium and food court.

Alii Place Office Tower, Honolulu, Hi: Lead Designer and Project Architect for a class A 25-story 340,000 square foot office tower with retail and 1000 car parking garage in downtown Honolulu adjacent to the Historic Iolani Palace. The project incorporated composite design of concrete for parking and steel for the office tower along with its innovative use of high quality precast concrete façade delivered on a just in time basis from the Colorado fabricator. Project won an AIA Merit Award and the Honolulu Building of the Year Award.

Joseph Hand, AIA, LEED AP, continued

Morgan Stanley's Information Technology Operations Center, New York, NY: Site representative guiding interior construction of a 340,000 sf information technology operations center, a project with Studios Interior Architects and HLW.

Alii Place Office Tower, Honolulu, HI: Mr. Hand designed this "Honolulu Building of the Year" and AIA Merit Award winning 25- story office tower and parking Project Name: Pat ilis num vulputpat lore voloreet utem quisim quam velent lorper se min hendit venit velit velisis augue tat. Duis nosto ea feum zzriurem acip ex exeriureet luptat at nisim vendit lore commodo dolobor alissequat praesequisi.

The Majestic Plaza, Honolulu, HI: The Majestic Plaza is mixed-use complex featuring a 40-story luxury condominium with commercial space and a 16-story affordable housing tower. Mr. Hand was the designer for this project.

Chifley Plaza, Sydney, Australia: Mr. Hand coordinated development of core services for a 1.1 million sf 42-story mixed-use tower in Sydney, Australia. The Chifley Plaza houses multiple fine dining facilities, high-end retail boutiques, an arcade and a convention center.

Ottoville Center, Pago Pago , American Samoa: A schematic design and development proposal for a 200 room hotel, convention center and retail mall adjacent to the main airport on the island of Tutuila.*

Korean Army Pension Fund Building, Seoul, South Korea: Mr. Hand served as project architect for the exterior wall of this 36-story, 500,000 sf mixed-use office and retail high-rise.

Morgan Stanley's Information Technology Operations Center, New York, NY: Site representative guiding interior construction of a 340,000-square foot information technology operations center, a project with Studios Interior Architects and HL.

Sultan Bin Abdulaziz City for Humanitarian Services. Riyadh, Saudi Arabia: Lead architect for a 1.1 million-square foot project consisting of 25 major buildings, including the master plan, design and construction documents for a 400-bed rehabilitation hospital, ambulatory care center with medical Laboratory outside the capital city.

John T. Hapkiewicz, PE

Project Role: Project Manager

Education

BS, Civil Engineering, Tufts University, Medford, MA, 1993

Registrations

PE: CT, 1998, Registration No.: [redacted]

PE: NY, 2009, Registration No.: [redacted]

PE: MA, 2000, Registration No.: [redacted] Civil)

Professional Associations

American Society of Civil Engineers (ASCE)

Experience

Years with AECOM: 9
Years with other firms: 8

Employment History

2001-present: AECOM, Transportation Project Engineer

Mr. Hapkiewicz is a structural engineer with considerable experience in structural engineering related to the design and construction of highway/railway bridges, transportation-related structures, and buildings and facilities. He previously worked for the Connecticut Department of Transportation Bridge Design Unit. He is responsible for the design, development, and preparation of intricate project plans for various structural designs. He has prepared design materials for complete bridge replacements, building facilities, bridge widenings, the replacement of bridge superstructures, the replacement of bridge decks, and various types of bridge and structure rehabilitations.

New Vehicular Bridge over Metro-North Railroad at Commerce Drive Rail-road Station, Fairfield, Connecticut: Project engineer for a new vehicular bridge providing access over a local road, a kiss-and-ride, and Metro-North tracks as part of the new railroad station. The proposed superstructure is a two-span (each 128 feet) continuous steel plate girder structure supporting a concrete deck. The substructure consists of full height abutments and a multi-column pier. A detailed erection procedure was required to launch the girders over the Metro-North catenary wires and under the overhead wires. The design is in accordance with the 2004 AASHTO LRFD bridge design specifications.

I-84 Short Term Interchange Improvements, Danbury and Newtown, Connecticut: Design engineer for the design of structural aspects for improvements to I-84 at interchanges 5, 6, and 11. This involved several bridge widenings, removal of bridge structures (including deconstruction plans), and construction of retaining walls. The preliminary design has been completed, and included the preparation of rehabilitation study reports.

Route 25 over Long Island Railroad, Town of Southold, Suffolk County, Long Island, New York: Lead project engineer for the complete replacement of a three-span bridge. The proposed structure is a 33-meter single-span bridge with a superstructure consisting of steel plate girders supporting a composite concrete deck. The fascia girders are haunched to add aesthetic appeal. The superstructure is supported on full-height pile-supported abutments. Also included in the design were tie-back sheet pile walls and geosynthetic walls. Additional architectural items are pylons located at the front corners of each abutment and a modified picket-style handrail. The design is in accordance with the 2004 AASHTO LRFD Bridge Design Specifications.

Metro-North Railroad over the Saugatuck River (Saga Bridge), Westport, Connecticut: Project manager for the Saga Bridge that carries four railroad tracks across the river. The project consists of the replacement of the Scherzer rolling lift moveable span and rehabilitation of the fixed approach spans. Other aspects of the design include seismic analysis, substructure retrofit, bearing replacement, a waterway fender system, a pedestrian walkway, and a new operator house.

Route 9 - Briarcliff-Peekskill Parkway – Bay Street to Route 6 (Main Street), New York State Department of Transportation (NYSDOT), City of Peekskill, Westchester County, New

John T. Hapkiewicz, PE, continued

York: Project engineer for engineering services for eight new retaining walls as part of the 1.3-kilometer reconstruction/widening of Route 9. The walls for all locations were cast-in-place cantilevered type walls. The wall heights vary up to 10.5 meters. Due to the high rock line in the area, tied-back soldier pile and lagging walls were designed to temporarily support Route 9 during the construction of the proposed walls. Close coordination with NYSDOT was required as several walls terminated at bridge wingwalls, which were designed by NYSDOT. Architectural details will be incorporated into the walls by utilizing stone masonry.

Culvert Replacement Over Mill Creek on Route 27, NYSDOT, Town of Southold, Suffolk County, New York: Project Engineer for the structural design for the extension of the culvert crossing at Mill Creek. Design elements included wingwall design, cofferdam design and timber bulkhead design.

Evaluation and Strengthening of the Taxiway "F" Bridge for Airbus A380 Aircraft in Orlando, Florida: Analysis and evaluation of a taxiway bridge at Orlando International Airport in conjunction with a project to upgrade the airport to accommodate the 1,240,000-pound Airbus A380. The six-span bridge consists of two simple spans and a four-span continuous extension that supports a continuous concrete slab. The superstructure was rated for the Airbus A380 wing gear pattern in conformance with the AASHTO manual for condition evaluation of bridges and the substructure was analyzed in accordance with the AASHTO standard specifications (load factor design). A report was compiled that presented the results of the analysis along with strengthening recommendations, associated costs, and construction staging issues. After approval of the report, AECOM was retained to prepare plans, specifications, and estimate for the strengthening.

Reconstruction of Bridge No. 01979, U.S. Route 6 over East Meadow Brook, Woodbury, Connecticut: Project engineer for the complete replacement of bridge No. 01979. The new superstructure is a concrete deck supported on steel rolled beams supported by pile-supported integral abutments.

New U.G. Bridge 5.83 over Overpeck Creek, CSX Transportation, Ridgefield Park, New Jersey: Design engineer for the complete replacement of the approaches to an existing swingspan railroad bridge. The seven-span south approach is 248 feet long, and the three-span north approach is 105 feet long. This project included the design of a pile supported substructure and a superstructure that consisting of a steel deck plate on rolled beams. The design was done in accordance to the AREMA manual, including seismic loading.

Bridge on Route 64 over Route 156, Henrico County, Virginia: Design engineer for this complete bridge replacement. The new bridge consists of a two-span (95 feet each) continuous steel plate girder superstructure. The new bridge was required to accommodate two additional travel lanes in each direction.

Interchange Improvements at Routes 12/184/I-95, Including Replacement of Bridge No. 00659, Connecticut Department of Transportation (ConnDOT), Groton, Connecticut: Design engineer for the complete replacement of Bridge No. 00659 and the construction of a soil nail wall in Groton. Work included removing the previous concrete arch structure and replacing it with a three-span continuous steel girder superstructure. The new substructure consisted of pile supported integral abutments and pier bents. The project also included the construction of a soil nail wall in front of a bridge abutment to allow for ramp traffic to pass through an area that was previously embankment fill.

Borys Kekish, PE

Project Role: Project Manager

Education

MBA, International Business, Pace University

MS, Civil Engineering, New York University

BCE, Civil Engineering, City College of New York

Registrations

PE: NJ, Registration No.: [redacted] Civil)

PE: NY, 1970, Registration No.: [redacted]

Professional Associations

National Society of Professional Engineers (NSPE)

American Society of Civil Engineers (ASCE)

Experience

Years with AECOM: 12
Years with other firms: 23

Employment History

1998-present: AECOM, Field Office Engineer

1969-1996, PANYNJ

1963-968, USACE

Mr. Kekish is a manager with over 30 years experience and a proven record of accomplishments in program management; construction management; facility planning, operations and management; customer service; engineering; field construction supervision; and administration. Dedicated and highly motivated professional with excellent interpersonal, technical, and leadership skills, and the ability to direct and focus the efforts of diverse technical and operational teams to the successful completion of large and complex projects.

Delta JFK redevelopment Program, Terminal 4 Headhouse Expansion and Renovation: Managed pre-construction activities associated with the Headhouse Expansion Element of Delta JFK Redevelopment Program Phase I. Prepared CPM documents for Construction Manager (CM) Services for the Headhouse. Reviewed contractor proposals as a member of CM selection Committee and other committees for On-call contract services. Maintained liaison with the Port Authority of New York and New Jersey Engineering and JFK Operations and facility staff. Reviewed and provided input on design and construction staging plans. collaborated with other project element managers associated with the Pase I Program.

Consultant to the Port Authority of New York and New Jersey, Engineering Department, performing project management duties in the Engineering Program Management Division, NY Airports: Project Manager. Managed projects, from inception to completion, at J. F. Kennedy International (JFK) and LaGuardia (LGA) Airports. Facilitated and coordinated the implementation of a new airport-wide pedestrian signing and wayfinding system (color-coded/Schiphol Airport concept) at LGA and JFK. Successfully managed the completion of the LGA Deck Protection and Preservation study with the identification and installation of cathodic & material protection systems which are currently being evaluated and tested for performance under actual marine conditions. Other projects: LGA Water Distribution Improvements; LGA CTB Concourse Modernization Program; CTB Garage and Terminal Signing Program; JFK Central Substation and 5 KV Distribution System Upgrade; JFK Central Taxihold Expansion; JFK East Parking Garage & Customer Service Improvements and new Canopy; JFK Passive Recreation Area conceptual and Stage I Study. Member of Project Management System Team on the development of an Enterprise Project Management System (EPMS) that will track all Capital and Operating Projects. Successful application of the Expedition Tracking System to projects.

Port Authority of New York and New Jersey, British Airways Terminal Expansion Program: Project Manager. Managed projects on new roadways and site improvements; utility systems upgrading; new garage structure. Coordination of work on new Airtrain Station and guideway at the British Terminal. Developed project master plan and schedule. Coordinated construction staging with PA Airport Operations and Redevelopment staff. Prepared and negotiated contract for roadways and site work.

The Port Authority of New York and New Jersey, JFK International Airport

Borys Kekish, PE, continued

and Aviation Planning Division: Project Manager. Directed consultants, engineering, planning, operations, and construction management staff toward on-time and on-budget completion of multi-million dollar projects; e.g., new Cogeneration Facility for the Airport; new computerized Parking Revenue and Inventory Control System (RCS) at the three New York metropolitan airports; new and upgraded terminal facilities; infrastructure improvements; computerized Aircraft Rescue and Fire Fighter Training Facility; and the first aircraft arrestor bed at an airport to improve the safety margin in the event of an aircraft overrun.

Aviation Department Customer and Marketing Services: Manager. Directed staff and consultants in the development and implementation of new services and merchandising enhancements for the three New York metropolitan airports.

U. S. Army, Corps of Engineers Captain - Asst. Director of Engineering and Chief, Eng. Troop Ops., Camp Drum, NY: Responsible for facility maintenance, construction, master planning and training programs.

Captain - Commanding Officer, Engineer Construction Company, Vietnam: Directed a 220-man organization in construction of various facilities and operations.

Lieutenant - Staff Officer/Operations Officer, Germany and Vietnam: Directed a staff of civilian and military engineers, architects and technicians in the preparation of plans and specifications for base camps, airport facilities, roads, bridges and other infrastructure elements.

JFK Airport Maintenance Services Division: Manager. Directed a staff of 300 engaged in all aspects of facility maintenance, construction, airport operations and administration.

Sr. Airport Engineer(Aviation) and Sr. Research Analyst (Tunnels, Bridges & Terminals): Managed multiple projects under the Aviation Capital and Major Work Programs; e.g., JFK International Arrivals Terminal Expansion; new Eastern Shuttle and new Delta Airlines Terminals at LaGuardia Airport. Directed research and system development programs and planning studies.

Assistant to Manager, World Trade Center Planning Division: Responsible for coordination of engineering, design, tenant construction and administration.

Construction Management Engineer, World Trade Center: Responsible for development of CPM networks and schedules and for the administration of architectural and paving/utilities contracts.

Construction Engineer, New York Passenger Ship Terminal: Supervised construction of viaduct, pier extension and new terminal facilities.

Chee K. Lai, PE

Project Role: Project Manager

Education

MS, Civil Engineering (Structures), Texas Tech University, 1987

BS, Civil Engineering (Structures), Texas Tech University, 1985

BS, Civil Engineering (Construction), Ungku Omar Polytech, Malaysia, 1979

Registrations

PE: NY, 1994, Registration No.: [redacted]

Professional Associations

American Society of Civil Engineers (ASCE)
- ASCE MET Section
International Group, former Chair
American Society of Highway Engineers (ASHE)

Experience

Years with AECOM: 12
Years with other firms: 16

Employment History

1998-present: AECOM, Structural Discipline Manager

Mr. Lai has extensive experience in transportation engineering projects that includes bridges, highways, railroads and buildings structures. He has successfully managed and participated in various bridge design projects involving complex MPT and construction staging in the New York metropolitan area. He is very familiar with NYSDOT, PANY/NJ, and MTA design procedures and practices. Mr. Lai has worked very closely and coordinated with various NYC agencies (PANY/NJ and NYSDOT) and staff in regions 8, 10, and 11.

Port Authority of New York and New Jersey (PANYNJ), Jet Blue Airways Terminal 5, Terminal Redevelopment, JFK International Airport, New York: Group director responsible for the review and quality control for the structural design effort for an elevated departure roadway system. The scope of work encompasses conceptual to final design of the departure ramps connecting to the terminal building. The departure ramps include two long curved ramps at each side that connect the departure frontage to the arrival level roadway. Key project issues included consideration of the existing landmark structure and the surrounding features (blast fence, Air Train connectors, and nearby roadway intersection for Terminal 6). The construction support services may be included in the scope at a later date. The design incorporates all Port Authority standards, as well as AASHTO and NYCDOT seismic criteria.

Port Authority of New York and New Jersey (PANYNJ),– Port Ivory New Intermodal Container Transfer Facility (formerly Howland Hook Marine Terminal), New York: Group director responsible for stages I to IV (phases I-VI) design and support services for the Port Ivory Intermodal Transfer Facility. The project scope included the conceptual design and layout for 11 tracks, survey, site development and drainage, facility lighting, and final bridge design. The bridge is designed for the crossing of a rubber tire gantry (RTG) crane (45 feet wide by 80 feet long in cross travel configuration).The selected structure consists of adjacent pre-stressed concrete box beams superstructure with cast-in-place integral abutments supported on drilled caisson foundation. Also provided construction support service and responses to RFIs.

Port Authority of New York and New Jersey (PANYNJ), Staten Island Railroad (SIRR) Connection to Chemical Coast Line, New York: Project manager responsible for the preparation of a final design of the south connector connecting the SIRR track to Conrail's Chemical Coast Line. Responsible for the design of substructures, retaining walls, and construction support services, including the review of shop drawings.

Port Authority of New York and New Jersey (PANYNJ), Staten Island Railroad (SIRR) Connection to Chemical Coast Line, New York: Provided quality review for the feasibility study of the construction of a connector between the SIRR and Conrail. Five alternative alignments were identified and developed, and a structure type study was performed. A report was prepared recommending further assessment of one layout that includes a 4,000–foot long viaduct joining the two railways. Preliminary design and cost estimates were performed for each alignment.

Chee K. Lai, PE, continued

American Airlines, JFK Terminal Redevelopment Project, New York: Senior structural engineer responsible for the redesign of drainage structures due to field changes, and the review of shop drawings. Also involved in providing technical reviews and support for the design of the elevated viaduct structure for the terminal. The elevated structure includes two curved ramps and a tangent section to provide access to the upper level of the terminal. The design will utilize steel superstructures framed to steel cap-beams supported on concrete columns.

New York State Department of Transportation (NYSDOT), Route 120, Route 22 and I-684 Improvements, Westchester County, New York: Group director responsible for phase I-VI structural design for the reconstruction project of Route 120. The project includes bridge replacement, new ramp and retaining structures, roadway widening, utility relocations, traffic signal modifications, and alignment and safety improvements for a 3-mile section of Route 120, and Interchange improvements/ reconstruction along I-684 at exits 2 and 3. The design utilizes multi-steel girders for the two curved ramp structures, and pre-stressed adjacent box beams for a structure over a creek. These structures will be supported on reinforced concrete substructures. Retaining structures will be comprised of MSE walls and cast-in-place cantilever walls. The construction cost is $42 million.

New York City Department of Sanitation (DSNY), Marine Transfer Station Ramp Structures, New York: Group director responsible for the design of six ramp structures leading to land- and water-based marine transfer stations. The design included curved bridge structures on sharply curved alignments consisting of twin connected box girders and single multi-cell box girders. Detailed activities included an integrated analysis using GT-STRUDL for the structure and CONBOX software for the design. The seismic analysis was carried out using a multi-mode response spectra method as per AASHTO and NYSDOT blue pages, considering complete interactions of super-structure, substructure, and foundation. The construction cost is $50 million.

New York State Department of Transportation (NYSDOT), Reconstruction of 2 kilometers of Route 25 and bridge replacement, Southold, Suffolk County, New York: Project manager responsible for the final design (phases V-VI) for the realignment of 2 kilometers of Route 25. The project included realignments, reconstruction and resurfacing, bridge replacement, retaining walls, MPT, and construction staging. The construction cost was $16 million.

New York State Department of Transportation (NYSDOT), Rehabilitation of Cantilevered Structures, Grand Central Parkway, Queens County, New York: Project engineer responsible for the preparation of SSM/DAD and final design (ADP and PS&E) plans for the rehabilitation of 2.4-kilometer. service roads cantilevered structures. The scope of services included the inspection, structural deck repairs, masonry repairs, deck joint replacement, concrete overlays, and the resurfacing of both service roads.

New York City Transit Authority (NYCTA), Rail Rapid Transit Access to LaGuardia Airport, New York City, New York: Project scope included the identification and the conceptual design for the preferred alignment to provide rail access to LaGuardia Airport as an extension of the existing BMT Broadway-Astoria subway line (N service) and preparation of the environmental impact statement. Senior engineer responsible for the conceptual design of superstructure, substructure, and foundations for the elevated subway structures along the two possible alignments included in the alternative alignment report. The evaluation included the structure type and section, material used, constructibility, geometric, and aesthetics to arrive at the recommended alternative alignment.

New York State Department of Transportation (NYSDOT), Rehabilitation of Seven Bridges Over Van Wyck Expressway, Queens, New York: Senior engineer responsible for inspection, load rating, development of repair details, and preparation of contract bid documents for replacement and retrofit of bridge bearings, deck joints, traffic railings, resurfacing each bridge, and maintenance and protection of traffic.

Andrew Lavallee, RLA

Project Role: Project Manager

Education

MLA, University of Massachusetts, Amherst, MA, 1989

Bachelor of Arts, Art History, Trinity College, Hartford, CT, 1986

Registration

Registered Landscape Architect: 1992 CT, Registration N [redacted]

Registered Landscape Architect: 1993 NJ Registration N [redacted]

Registered Landscape Architect: 1995 NY, Registration No [redacted]

Council of Landscape Architectural Review Boards (CLARB: 1991 Certification [redacted]

Construction Specification Institute: 2000 Certified Document Technician [redacted]

Professional Associations

American Society of Landscape Architects (ASLA)

Years of Experience: 21

Years with AECOM: 3
Years with other firms: 18

Employment History

Nov 2007-Present AECOM Associate Principal
Oct 1995-Nov 2007 Mathews Nielsen Landscape Architects PC, Senior Associate
Nov 1994-Oct 1995 Stantec Assistant Project Manager
May 1992-Nov 1994 Global Consult Group, Director of Design
Dec 1989-May 1992 Balmori Associates, Project Designer/ Manager
Jan 1989-Dec 1989 Jack Curtis & Associates,Project Designer/ Manager

Andrew Lavallee is a registered landscape architect who specializes in the design of technically challenging projects. Over the past 21 years, he has designed and managed a broad range of public, private and institutional landscapes throughout the United States and abroad. Mr. Lavallee has also served as a construction manager and owner's representative on several large public park projects in New York City giving him a unique understanding of the challenges involved in building successful landscapes.

Mr. Lavallee has led and managed design efforts for clients from design conception and community outreach through construction. His work has included the design of landscapes for academic and cultural institutions, urban and waterfront parks, roof gardens, sports facilities, urban streetscapes and plazas, brownfield restoration rojects and large scale residential evelopments.

In 2008 Mr. Lavallee was appointed as a Park Design for the 21st Century Fellow with the Design Trust for Public Space in New York City. He is currently a co-author of the Park Design for the 21st Century: High Performance Landscape Guidelines scheduled for publication in May 2010.

Prior to joining AECOM, Mr. Lavallee was responsible for the design and management of the of the $100 million Tribeca Neighborhood Segment of Hudson River Park. Mr. Lavallee is a member of the Construction Specification Institute. He is a frequent speaker at landscape conferences and has authored more than thirty articles on a variety of technical subjects ranging from sports facility design to the development of economically sustainable parks.

Route 9A Construction Administration, New York, NY: AECOM is providing construction administration and resident landscape architecture services for the reconstruction of Route 9A in Lower Manhattan. This complex area has numerous challenges, including extensive below-grade structure, highly detailed planting beds with tightly controlled soil median specifications, and the highest quality finish materials. Project was funded by the New York State Department of Transportation (NYSDOT). Mr. Lavallee served as the Construction Inspector on this project.

World Trade Center Public Realm Master Plan, New York, NY: Project Manager for the project, which comprises the streets, plazas and parks within 'Ground Zero,' will unify and complete a 16-acre redevelopment project that includes five world class skyscrapers, a performing arts center, a regional multi-modal transportation hub and a state-of-the-art vehicle security center. The project involves significant coordination and consensus building with diverse stakeholders, high-end design resolution and integration of all aspects relating to pedestrian movement, transport, security and retail into a cohesive public realm.

Bush Terminal Piers 1 to 5, Brooklyn, NY: Sponsored by the New York City Economic Development Corporation (NYCEDC), City of New York Parks and Recreation. Master planning and design of a 23 acre brownfield waterfront site meeting the needs of a diverse and vocal community with goals as wide-ranging as softball and soccer

Andrew Lavallee, RLA, continued

fields and preserving bird watching opportunities at this abandoned site that nature had reclaimed. Park and recreation elements were developed in concert with the remediation consultants so that surface treatments, such as synthetic turf for fields, are a part of the brownfield remediation. Mr. Lavallee served as the Project Manager and Lead Landscape Architect for the project.

High Performance Landscape Guidelines, New York, NY: Mr. Lavalle is the co-author and researcher on this project which involves the research and writing of a design manual for use by the New York City Department of Parks staff. The focus of the manual will be the development of sustainable guidelines and best management practices for new park construction or renovation. This project is sponsored by Design Trust for Public Space and New York City Department of Parks & Recreation.

PlaNYC Reforestation Initiative, New York, NY: The PlaNYC 2030 goal of replanting forest on 2,000 acres of New York City public land by 2017 provides a unique opportunity to significantly improve the quality of the urban environment and to address issues of public health and climate change. AECOM, teamed with a selection of expert academic consultants, worked to establish measurable goals, objectives, planting design methodologies and timelines for the action items of site selection, site assessment and site construction. Mr. Lavallee is serving as the technical advisor. The scope of the project includes developing a protocol for site selection of 2000 acres, categorizing sites and evaluating their reforestation suitability, and developing a range of reforestation details and specifications. The team assessed existing woodland areas, open spaces, natural areas and publicly-owned lots suitable for reforestation. The goal of the implementation plan is to develop a cookbook of approaches that can be applied to a wide variety of sites throughout the five boroughs. This initiative is sponsored by New York City Parks Department / Natural Resources Group.

Fort Totten Park Master Plan Value Engineering Workshop, Fort Totten, NY: Mr. Lavallee served as part of a a multidisciplinary team that was asked to review master plan documents for an historic 49.5 acre site that has been designed to accommodate a future park and training center for the New York city Fire Department. The VE Team was asked to evaluate the potential impact to the environment, including the shoreline, views, and historical implications. Proposals to coordinate, improve, and/or modify the baseline designs will be made to maximize the value of the projects for the City from a functional as well as cost-benefit perspective including initial and life cycle costs. Approximate project budget: $400 million. Mr. Lavallee was the Landscape Architecture Specialist. Project was successfully delivered for the New York City Office of Management and Budget (OMB), in conjunction with the New York City Department of Parks and Recreation (DPR) and the Fire Department of the City of New York (FDNY).

New York City Police Academy Value Engineering Workshop, New York, NY: Mr. Lavallee served as part of a multidisciplinary team that was asked to review the project design design documents for both the master plan and schematic design phases of a future training facility for the New York City Polic Department The 3 million squre foot, multi-building campus complex is located on a 35 acre site in College Point, Queens. The focus of the VE study was to review the pre-schematic and schematic design phase documents developed by the consultant firms, and to make recommendations on the various aspects of the design with a goal of increasing value to the project by improving functional operations, reducing costs, or improving reliability and security. Approximate project budget: $1 Billion. Mr. Lavallee was the Urban Campus/ Parking Expert Specialist.

Mark Linkowski

Project Role: Project Manager

Education

BS, Civil Engineering, University of Connecticut at Storrs, 1996

Registrations

EIT: NY Registration No.: [redacted]

Experience

Years with AECOM: 8
Years with other firms: 6

Employment History

1998-2005: AECOM, Civil Project Engineer

2009-present: AECOM, Civil Project Engineer

Mark Linkowski has over ten (10) years of experience in Civil and Transportation Engineering projects specifically in the transit, highway and aviation sectors. Mr. Linkowski's management experience includes over five (5) years of oversight of Project Controls, specifically on the Transportation/Highway/Site Development sector. Mr. Linkowski's design experience includes horizontal and vertical alignments, grading and drainage, stormwater management, utilities, signing and striping, quantity and cost estimating, and construction support services. In addition, Mr. Linkowski's responsibilities have included managing small to medium size construction projects and managing engineering office activities including the design and drafting of site engineered plans, legal land documents, and construction inspection.

Port Authority of New York and New Jersey, JFK 13R-31L "Bay Runway" Reconstruction and Rehabilitation, JFK International Airport, Queens, New York: Project manager for the $348 million design and reconstruction of JFK's longest runway. The Bay Runway was widened to accommodate new large aircraft and surfaced with concrete instead of asphalt to provide for a 40-year useful life of the runway by surfacing. Construction included delay reduction improvements to taxiways for Runway 13R-31L to increase operational efficiencies and reduce air traffic delays of approximately 10,485 hours annually. This project will result in approximately $55.36 million of annual savings in aircraft operating costs and the value of passenger time based on FAA modeling. Lighting and electrical infrastructure was also upgraded. Minimized customer impacts by working closely with JFK operations, the FAA and airlines on the detailed construction staging and operating plans. These plans included scheduling the runway closure during the non-peak travel season, using different runway configurations to better utilize existing capacity and flight schedule adjustments by the airlines.

American Airlines, JFK Redevelopment Project, Terminal 8 Reconstruction, John F. Kennedy International Airport, Jamaica, New York: Civil Engineer responsible for engineering design and construction for civil landside design elements for complete reconstruction of existing Terminals 8 & 9. Providing construction administration assistance and civil engineering design for new elevated departure roadway, utility relocations, and coordination with new terminal and airside facilities. Unique features include coordination with new Light Rail System (AirTrain) and improvements to double passenger capacity for American Airlines facilities. Estimated construction cost is $1.3 Billion to be completed 2007.

The Port Authority of New York and New Jersey JFK Redevelopment Program (PANYNJ), Cargo Parking Assessment outside the Central Terminal Area of John F. Kennedy International Airport, New York: Civil Engineer responsible for field data collection of all cargo area parking locations surrounding the airport. Included tenant survey, identifying existing parking conditions, and a supply/demand analysis for different sectors outside the airport.

The Port Authority of New York and New Jersey, Continental Airlines, Global Gateway Program, Newark International Airport, NJ: Civil

Mark Linkowski, continued

Engineer performing engineering review and design of a radiant heat Deicing Facility adjacent to the active taxiways and runways.

MTA Bridge & Tunnels Authority (TBTA), Throgs Neck Bridge Fendering for Queens Anchorage & Approach, NY: Civil Engineer responsible for developing a site restoration plan for construction staging for fender systems to protect the bridge's Queens anchorage and the adjacent approach piers from ship collisions.

Transportation Security Agency (TSA) Implementation of Explosive Detection Devices and Systems in the Nation's Airports, Richardson, TX: As part of the Civil/Architectural Task force based in Richardson, TX , coordinated design plans implementing explosive detection devices for baggage handling systems at over 200 of the nation's airports. Fast paced, high intensity team atmosphere under a stringent timeline for planning, design, construction and implementation to enhance airport security post -9/11.

New York State Department of Transportation (NYSDOT), State Route 120/22, Town of North Castle, NY: As Engineer, assisted in developing detailed stormwater management plans for a state road and interstate highway interchange. Special designs were implemented for areas of the site within the New York City drinking water watershed. Designed drainage layout and performed drainage calculations, all within local and state regulations and with regard to Best Management Practices (BMP), New York City Department of Environmental Protection (NYCDEP) seminars, and the Army Corps of Engineers regulations. Duties included developing storm sewer plans, detention basins, and routing storm hydrographs through existing and proposed conditions. Assisted in writing the Stormwater Pollution Prevention Plan (SPPP) which documents the environmental effects of the proposed construction in the Kensico Reservoir watershed. Designed New York State Department of Transportation Bridge Data Packages for multiple bridges over Interstate 684. Assisted in compiling a Preliminary Cost Estimate of $70 million using NYSDOT software. Investigated the study and implementation of Roundabouts inside the corridor. Performed a 7-year Accident Analysis Study for the Project.

New York State Department of Transportation (NYSDOT), Staten Island Expressway Resurfacing and Rehabilitation, Richmond County, NY: As Engineer, developed detailed plans for the rehabilitation of 10.6 km of the Staten Island Expressway. Duties included cross-sections, profiles, and a high occupancy vehicle lane. Provided construction support services which involved reviewing shop drawings and responding and advising on field issues.

Stonebridge Estates, Town of New Fairfield, CT: Designed horizontal alignments and vertical profiles for 1500 linear feet of roadway for this 16-lot subdivision. Responsibilities included storm sewer layout design, determining locations for drainage manholes, design of grading for residence lots, determining foundation location, design of septic system and leaching fields for residence lots, determining locations for well and utilities and development of a quantity and cost estimate.

Candlewood Lake Shore Estates, Town of Brookfield, CT. Responsibilities for this 24-lot subdivision design included: design of horizontal and vertical profiles for 1000 linear feet of roadway, design of storm sewer layout, determining locations for drainage manholes and foundations, design of grading for residence lots, design of septic system and leaching fields for residence lots, determining locations for well and utilities and development of quantity and cost estimate.

Towns of New Fairfield, New Milford, Brookfield, Sherman, and City of Danbury, CT. Single lot parcel design ranging from 1 to 10 acres. Responsibilities included: design of horizontal alignments and vertical profiles for 1000 linear feet of roadway, design of storm sewer layout, determining locations for drainage manholes, determining foundation location, design of grading for residence lots, design of septic system and leaching fields for residence lots, determining locations for well and utilities, and development of a quantity and cost estimate.

Elizabeth D. Marcantonio, PE

Project Role: Project Engineer

Education

MS, Civil Engineering/Structural, Manhattan College, Riverdale, NY, 2005

BS, Civil and Environmental Engineering, Villanova University, PA, 2002

Registrations

PE: NY, 2008, Registration No.: [redacted]

EIT: PA, 2002, Registration No.: [redacted]

Professional Associations

American Society of Civil Engineers (ASCE), Treasurer (in college), Younger Members Forum

Women's Transportation Seminar (WTS)

American Institute of Steel Construction (AISC)

Society of Women Engineers (SWE), Treasurer (in college)

Experience

Years with AECOM: 8
Years with other firms: 0

Employment History

2002-present: AECOM, Structural Engineer

Ms. Marcantonio is a highly skilled structural engineer offering broad experience in the engineering field. Her relevant experience includes the design of dunnage, floors, and framing systems to support mechanical and electrical equipment for industrial and institutional buildings, bridges, overhead sign structures, and various retaining walls. She has also developed detailed specifications for the various aspects of structural design, and compiled all related documents, including cost estimates, for various bid packages. In addition, she has developed design task protocols (DTP), which are detailed scopes of work created at the beginning of a project, detailing applicable codes, standards, testing, and all related parties for coordination.

Tappan Zee Bridge I-287 Environmental Review, New York State Department of Transportation, New York State Thruway Authority, and MTA-Metro North Railroad, New York: Member of the project management team working to address the highway, bridge, and transit needs within a 30-mile corridor. Structural engineer responsible for the day to day coordination with the design consultant developing various technical documents, and various management level reports. Working closely with the client group as they address procedural issues for the bridge design development, developing a tiered approach to address highway and bridge components.

West Midtown Redevelopment, Port Authority of New York and New Jersey (PANYNJ), New York: Project engineer to PANYNJ in developing a comprehensive strategy for maximizing the potential value of their properties on the west side of Midtown Manhattan. PANYNJ operates two major transportation facilities on the west side of Midtown Manhattan, the Port Authority Bus Terminal and the Lincoln Tunnel. In conjunction with its transportation responsibilities, PANYNJ owns or controls about 19 acres of property on 15 parcels, most of which are adjacent to the transportation infrastructure. As structural engineer for the project, responsible for analyzing the existing structural, geotechnical, utilities, and traffic conditions in order to formulate recommendations on column and foundation placements for building potential developments on these properties, and for developing a comprehensive technical report according to PANYNJ standards.

In-Depth Inspection of the Commodore Hull Bridge over the Housatonic River, Shelton, Connecticut: Design engineer responsible for the inspection of gusset plates on the Commodore Hull Bridge and the access ramps that carry Route 8 over the Housatonic River (Bridge Nos. 00541A, B, and C) in Shelton. These inspections are the first phase of a rehabilitation project that will address structural elements found during the inspection. Access to the deck trusses over the river for the in-depth inspection was provided by a self-propelled barge equipped with a 60-foot man-lift. This provided complete access to portions of the bridges without the need for lane closures.

Vehicular Security Center for Freedom Towers, Port Authority of New York and New Jersey (PANYNJ), New York, NY: Structural engineer for the preliminary design of a three-tier

Elizabeth D. Marcantonio, PE, continued

framing structure underground. There is a park and a church on top of the structure. The whole structure will be designed to sustain the blast loading. The structure is founded on sound rock.

Route 9A Program Management, New York State Department of Transportation (NYSDOT), New York: Responsible for the redevelopment of Route 9A. Primary activities included project management and controls, construction contract coordination, constructibility reviews, graphic/visual aids, community outreach, and staff support for NYSDOT.

Westchester Avenue Bridge Rehabilitation, New York City Department of Transportation (NYCDOT), Bronx County, New York: Structural engineer responsible for the rehabilitation design of the substructure, superstructure, and deck replacement for the Westchester Avenue Bridge.

Route 120 (Ramp H Southbound Entrance Ramp and Ramp K Southbound Exit Ramp) over I-684, New York State Department of Transportation (NYSDOT), New York: Prepared abutment calculations for the proposed curved steel I-girder two-span bridges.

Jetblue T5 Redevelopment, Jetblue Airways: Structural engineer responsible for analysis and design of overhead sign structures (both cantilever and span types) throughout the airport. Also responsible for all drawings associated with the overhead sign structures.

2004 and 2005 Biennial Inspection of La Guardia Airport, Port Authority of New York and New Jersey (PANYNJ), New York: Structural integrity engineer for the biennial inspection of the central terminal building, all hangars, and other airport facility buildings. Also provided immediate response to structural emergencies and provided recommendations to stabilize the situation.

Metro-North Railroad over the Saugatuck River (Saga Bridge), Westport, Connecticut: Design engineer for this project. The Saga Bridge carries four railroad tracks across the river. The project consists of the replacement of the Scherzer rolling lift moveable span, and rehabilitation of the fixed approach spans. Other aspects of the design include seismic analysis, substructure retrofit, bearing replacement, waterway fender system, pedestrian walkway, and a new operator house.

Times Square Station Rehabilitation, MTA New York City Transit (NYCT), New York: Structural engineer for the conceptual and preliminary design for the rehabilitation of Times Square Station for the Shuttle Line.

Joseph B. Matarazzo, PE

Project Role: Project Manager

Education

MS, Civil Engineering, Polytechnic Institute of New York, 1990

BS, Civil Engineering, Polytechnic Institute of New York, 1979

Registrations

PE: NY, 1984, Registration No.: [redacted]

PE: NJ, 1987, Registration No.: [redacted]

PE: PA, 1997, Registration No.: [redacted]

Professional Associations

American Institute of Steel Construction
American Engineering Alliance
Municipal Engineers of New York

Experience

Years with AECOM: 14
Years with other firms: 17

Employment History

1996-present: AECOM, Project Manager
1979-1981: NYC Department of Transportation, New York, NY, Assistant Civil Engineer
1981-1986: Pavlo Engineering Co., New York, NY, Structural Designer
1986-1988: Greenman Pederson Inc., New York, NY, Senior Construction Inspector
1988-1992: Pavlo Engineering Co., New York, NY, Resident Engineer and Structural Engineer
1992-1993: Gannett Fleming, Inc., New York, NY, Resident Engineer
1993-1995: OPA Engineers, Inc. (formerly Pavlo Engineering), New York, NY, Project Manager
1995-1996: A&H Engineers, PC, New York, NY, Vice President
1996AECOM - Earth Tech, New York, NY, Project Manager

Mr. Matarazzo is an engineer experienced in the planning, design and construction inspection of bridges and highways and other facilities. He has directed the rehabilitation of existing facilities as well as the development of new ones. Bridge types he has dealt with include long-span, high level, major river crossings as well as viaducts and grade separation structures. He is an accomplished project manager and resident engineer skilled in technical and administrative project development. His combination of bridge design and construction experience makes him particularly well suited for a leadership role in constructibility initiatives.

US Agency for International Development – Afghanistan Infrastructure and Rehabilitation Program, Bamyan to Dushi Road, NH-07, Segments 1 and 2: Senior Bridge & Structures Engineer for Value Engineering Study for this 85 km road, which includes three bridges, approximately 500 culverts, stone retaining walls, and stone guard walls. The study identified $2.5 Million in possible savings on this $90 Million project.

New York State Department of Transportation - Region 11, Rehabilitation of Major Deegan Expressway, Bronx County: Lead Structural Engineer. Assisted with the development of preliminary plans for the deck replacement and superstructure rehabilitation of this 1200 meter long, 6 lane viaduct.

New York State Department of Transportation - Region 11, Seismic Vulnerability Assessments for Various Bridges, New York City: Project manager for the assessment of 834 bridges for vulnerability to seismic events. These bridges are located on and over various emergency access corridors in the five boroughs (counties) of New York City. Manages screening of each structure to establish its seismic risk classification and an empirical assessment to determine overall vulnerability to seismic events. Field verification of existing conditions is performed as required. For a limited number of structures, an analytical assessment involving capacity/demand ratios and "push-over" analyses was performed to compare the analytical results with the empirical results. The final product is a recommended course of action for seismic retrofit in relation to the vulnerability and importance on a structure-by-structure basis.

New York State Department of Transportation - Region 11, Route 9A Lower Manhattan Redevelopment Project Office, World Trade Center Site Reconstruction, New York City: Deputy project manager for miscellaneous structural engineering associated with the reconstruction of Route 9A adjacent to the World Trade Center site. Work elements included demolition of the temporary pedestrian bridges at Vesey Street and Rector Street and reconstruction of approximately 60 feet of the approach structure ("bathtub") to the West Street Tunnel. The approach structure is being reconstructed due to the proposed alignment of Route 9A. Relocation of the east pier of the Liberty Street pedestrian bridge and design of a new center pier. The new piers are necessary due to the proposed alignment of Route 9A. Design of a $5 million, 140-foot-long architecturally enhanced pedestrian bridge that connects to the existing

Joseph B. Matarazzo, PE, continued

Liberty Street Pedestrian Bridge. The bridge is necessary in order to maintain pedestrian circulation through the World Trade Center site during construction. Reviewed plans, specifications, and calculations prepared by others for the construction of a pedestrian concourse below Route 9A, and ventilation and egress structures for the PATH subway tunnels, which are below the highway.

New York State Department of Transportation - Region 11, Route 9A Lower Manhattan Redevelopment Project Office, Short Tunnel Bypass, New York City: Deputy project manager for scoping and preliminary design for an 1100-foot, 4-lane tunnel adjacent to the World Trade Center. Responsible for the day-to-day administration and technical work, which included development of 10 structural/geotechnical tunnel construction concepts that involve elements such as slurry walls, diaphragm walls, and secant pile walls. The invert of the tunnel was to be approximately 35 feet below grade; the invert for various utility rooms to support ventilation and fire protection systems would be approximately 60 feet below grade. Coordinated construction staging, utility relocations, and maintenance and protection of traffic with the overall Route 9A redevelopment plan. Ensured that the design incorporated protection of existing above and below ground structures during construction. Managed preparation of construction schedules for the various tunnel concepts. Managed extensive hydraulic analyses and dewatering studies due to the high water table in the area. Managed design of a tunnel ventilation system involving either a semi-transverse or jet fan system; design of a ventilation system for the PATH tubes located below the proposed tunnel; design of a pedestrian concourse below the tunnel to connect the new World Trade Center with the World Financial Center; surveillance and security systems; fire protection systems; defensive measures against weapons of mass destruction.

NYSDOT Region 9A Lower Manhattan Redevelopment Project Office, Vesey Street Temporary Pedestrian Bridge, New York City: QA/QCmanager for the design and design support during construction for a $10 million temporary pedestrian bridge across Route 9A at Vesey Street adjacent to the World Trade Center. Responsibilities included review of plans and calculations and preparation of specifications. The bridge provides safe access for 6,500 pedestrians per hour to the World Financial Center, on the west side of Route 9A, from the temporary PATH station at the WTC. The facility includes east and west touchdown structures including elevators, escalators and staircases, canopies and roof, architectural treatments, lighting, prefabricated superstructure. Design and construction was done on a fast track basis: six months from project inception to bridge opening. I/D clauses were added for major project elements. Intensive coordination with city and state agencies and stakeholders was required.

New York State Department of Transportation - Region 10, Wantagh Parkway over Goose Creek, Nassau County New York: Project manager for preparing PS&E package for the replacement of the bascule and flanking spans with a three-span continuous precast, prestressed concrete superstructure, 26 meters wide and 52 meters long. The substructures consist of cap beams supported on 1.3-meter-diameter drilled shafts.

NYSDOT Region 11, Rehabilitation of 14 Bridges on or spanning the Cross Bronx Expressway, Morris Avenue to the Sheridan Expressway, Bronx, New York: Project manager for the preliminary design for rehabilitation and/or replacement of 14 bridges on or spanning the Cross Bronx Expressway from Morris Avenue to the Sheridan Expressway. Structures include 4 steel rigid frames, 4 concrete rigid frames, a concrete arch, an 18-span viaduct, a 9-span multi-girder bridge and 3 simple-span bridges at a cost in excess of $90 million. Managed preliminary design documents, in-depth inspection, deck evaluation, design approval documents (DAD), calculation of as-built and as-reconstructed load ratings, and seismic analysis for each structure. Directed various studies: traffic, accident, utility, and environmental (hazardous material mitigation). Prepared maintenance and protection of traffic schemes and construction schedules. Directed a study for various widening alternatives.

Asim K. Mazumdar, PE

Project Role: Project Manager

Education

MS, Structures, University of Pennsylvania, 1974

BS, Civil Engineering, University of Calcutta, India, 1969

Registrations

PE: NY 1997, Registration No.: [redacted]

Professional Associations

Structural Engineering Institute (SEI)

American Society of Civil Engineers (ASCE), Treasure

American Institute of Steel Construction (AISC), Member

Experience

Years with AECOM: 11
Years with other firms: 30

Employment History

1999-present: AECOM, Structural Project Manager

1999AECOM, New York, NY, Structural Project Manager

Mr. Mazumdar has extensive experience with managing projects involving design engineering, along with construction support services to various facilities (such as highway and railroad bridges), including subway systems and railroad stations, commercial and industrial buildings, nuclear and fossil power generating stations, parking garage structures, and underground structures. Mr. Mazumdar is also skilled in the preparation of contract documents.

Port Authority of New York and New Jersey (PANYNJ), World Trade Center, Transportation Hub, Manhattan, New York: Package manager responsible for total design, developing contract documents, coordination with the Port Authority project management team and the contractor. Providing construction support services for early works packages. The various design packages involve design with consideration for blast loads and seismic loads over and above normal gravity loading conditions. The New York City Building Code and the International Building Code are used in the design. Blast analysis is performed based on criteria set by the U.S. Army. Detailed description of this project is confidential.

Jet Blue Airways, Terminal 5 – Elevated Roadway System, JFK International Airport, Jamaica, New York: Lead structural engineer responsible for total structural design effort for the elevated departure roadway concrete structure. The scope of work included conceptual and final design of the departure ramps connecting to the terminal building. Two long curved ramps at each side connected the departure frontage to the arrival level roadway. Performed the conceptual design with consideration of the existing landmark structure and the surrounding features (like blast fence, Air Train connectors, and nearby roadway intersection for terminal 6). Services also included site survey, conceptual design, preliminary cost estimate, final design, specifications, and engineer's estimate. Construction support services may be included in the scope at a later date. The design will consider all Port Authority standards, and AASHTO and NYCDOT seismic criteria.

Jet Blue Airways, Terminal 6 – Widening of Arrival Roadway, JFK International Airport, Jamaica, New York: Lead structural engineer responsible for inspection, analysis, and load rating of the structure supporting the arrival roadway. The load rating was performed with consideration of an additional lane to arrival frontage roadway to improve vehicular traffic flow and passenger movement. Developed contract documents with details of sidewalk demolition and construction phasing with consideration to maintaining terminal operation. In addition, provided construction support services.

Port Authority of New York and New Jersey (PANYNJ), Perimeter Intrusion Detection System for New York Airports, New York: Lead structural engineer responsible for the design of different systems mounted on the ground or on structures to detect moving objects with or without provisions of detecting hazardous materials. Systems include CCTV, intelligent fence, crash gate protection system, etc. This work is classified and further discussion is not permitted.

American Airlines, Terminal

Asim K. Mazumdar, PE, continued

Redevelopment – Elevated Roadway System, JFK International Airport, Jamaica, New York: Lead structural engineer responsible for the total structural design effort for a 160–foot wide and 800–foot long elevated roadway system in front of the new terminal building. Two 400–foot long curved ramps at each side connect the elevated structure to the arrival level roadway. The construction documents for this viaduct structure were completed on a fast track schedule of four months. The pedestrian/passenger overpass connecting the Air Train station to the terminal building runs under this structure, and consideration was given to avoid interference between structural elements. Performed the structure study, and final design was performed with consideration of maintaining the terminal facilities during construction. Performed the complete design, developed contract documents, and assisted in bid preparation and finalization of the construction contract. The design considered AASHTO and NYCDOT seismic criteria. Also provided construction support services.

Newark Liberty International Airport (EWR), Call-In Contract, Newark, New Jersey: Lead structural engineer for different task order assignments. Assignments included design of high mast towers and toll plazas, rehabilitation of buildings, as well as repair work of roadways, including replacement of roadway joints for elevated departure roadways.

Rehabilitation of Seven Bridges on or Crossing the Cross Bronx Expressway, Bronx, New York: Project engineer for phases I-IV, rehabilitation design for seven bridges from Bronx River Parkway to Castle Hill Avenue on or spanning the Cross Bronx Expressway. The work included a condition survey, load rating, bridge deck evaluation, and identifying substandard features. Developed preliminary plans with MPT scheme. Performed steel vulnerability and seismic assessment of existing structures, and calculation of quantity/cost with life cycle cost analysis for different rehabilitation alternatives for these bridges.

Reconstruction of the New England Thruway, Larchmont, New York: Project engineer for construction support services during reconstruction of 5 miles of New England Thruway, including rehabilitation of six bridges. Responsible to assure correctness and conformance of the construction documents to NYSDOT standard specifications and NYS Thruway Authority criteria. The work involved coordination between the contractor, Thruway Authority, Metro-North Railroad, and the project field office. Work also involved construction sequencing with consideration for railroad traffic on the New Haven line of MNR.

Concrete Vulnerability Assessment of 450 Bridges in New York City under Bridge Safety Assurance Program, New York State Department of Transportation (NYSDOT) Region 11, New York, New York: Task manager, working along with project manager to coordinate the entire work between subconsultants and in-house staff. One of the major responsibilities was to give engineering interpretation of three state manuals to assure the correctness of the coding scores assigned by each member of the team. Additional responsibilities included preparation of work schedules along with generation of progress reports and overall checking of the work.

Upgrade of Several New York City Bridges, New York City Department of Transportation (NYCDOT), New York, New York: Project engineer during the design phase. This design and construction support services project is under the bridge component rehabilitation program of NYCDOT. Bridges involved included FDR drive at 58th Street, four bridges over Grand Central Parkway, part of Jackie Robinson Parkway, Belt Parkway over Ocean Parkway, and some city street bridges crossing Long Island Railroad and Conrail tracks.

Strengthening of the Ramp Structures Joining Lincoln Tunnel to Port Authority Bus Terminal, Manhattan, New York: Project engineer for preparation of a study report with load rating analysis for the ramp structures carrying commuter and long-distance buses in and out of the Lincoln Tunnel. The study was performed to accommodate 45-foot-long buses with heavier axle loads. Construction phasing with night work was an integral part of the design.

Bill Meister, PE

Project Role: Project Manager

Education
BS, Civil Engineering, Virginia Polytechnic Institute and State University, 1982

Registrations
PE: NJ, 1993, Registration No.: [redacted]

EIT: VA, 1982, Registration No.: [redacted]

Professional Associations
American Society of Civil Engineers (ASCE)
The North American Society for Trenchless Technology (NASTT)

Experience
Years with AECOM: 21
Years with other firms: 7

Employment History
1989-present: AECOM, Structural Project Manager

Mr. Meister has extensive and diversified engineering experience in the management, design, inspection, and construction of numerous civil and structural projects. His project involvement has included fixed and movable bridges, air terminals, bus maintenance facilities, highways, tunnel design and rehabilitation, retaining walls, viaducts, horizontal drill projects, sign structures, drainage systems, lighting, and special structures.

George Washington Bridge Tower Survey, Port Authority of New York and New Jersey (PANYNJ): Project engineer for the complete structural survey of the main span towers. Included was the in-depth field inspection of the towers and the preparation of a structural condition report.

Holland Tunnel Catwalk and Handrail Rehabilitation, Port Authority of New York and New Jersey (PANYNJ): Project engineer for the $13 million catwalk and handrail rehabilitation, including stainless steel nosings on both tunnel walls of all three tubes. Obtained pertinent field information, prepared design drawings, attended progress meetings, reviewed contractor performance and reviewed all shop drawings. Project utilized as prototype for future repairs at Lincoln Tunnel.

Harrison PATH Station Platform Extension, Port Authority of New York and New Jersey (PANYNJ), Harrison, New Jersey: Project engineer for the preparation of preliminary design drawings for the extension of the station platforms.

Route 29 Tunnel, Sections 10C and 11B, PKF/NCI Design Build for New Jersey Department of Transportation (NJDOT), Trenton, New Jersey: Project structures coordinator for the $71 million design-build, cut-and-cover facility along the Delaware River in Mercer County. The project involved roadway rehabilitation south of the historic Amtrak bridge crossing Route 29 and extending south to the Riverview Cemetery. Included was a 700-meter cut-and-cover section that separates four lanes of highway traffic and the local residential, historic area of Lamberton; access and egress ramps to southbound/northbound Route 29 traffic; two pedestrian bridges for access to a landscaped park on top of the cut-and-cover section; and various retaining walls providing grade separation, and to accommodate the depressed Route 29 highway. The project was under full federal oversight due to complex geotechnical issues and tunnel construction.

Replacement of Daniel Road Bridge over Manalapan Brook, New Jersey Department of Transportation (NJDOT), Middlesex County, New Jersey: Project manager for the roadway realignment and the replacement of a two-span timber bridge with a single-span widened prestressed concrete structure. Responsibilities included alignment studies to minimize wetlands impacts and correct substandard stopping sight distance; preliminary roadway designs; preliminary cost estimates, and preparation of final contract documents. Mr. Meister subsequently provided shop drawing review and consultation services during construction.

Old Corlies Avenue over Jumping Brook Bridge Replacement, Monmouth County, Neptune, New

Bill Meister, PE, continued

Jersey: Project manager for the reconstruction of Monmouth County Bridge No. N-5 on County Route 17, Old Corlies Avenue over Jumping Brook in the Township of Neptune for the County of Monmouth. Project involved the development of construction documents for the replacement of a two-lane, 22-span bridge with a three-span, prestressed, precast concrete bridge. Mr. Meister was responsible for the coordination of survey and topographic mapping, hydraulic and geotechnical analyses, the procurement of all necessary permits, the structural and approach roadway designs, and the development of right-of-way and utility plans.

Variable Message Signs Milepost 0 to Milepost 122, New Jersey Turnpike Authority (NJTPK), New Jersey: Task manager for the design of the variable message sign system for the full length of the NJ Turnpike. The system included 19 LED signs with walk-through cabinets and a central computer system linked to the local controllers at each sign with a lease line communication system. The contract included the special design of the overhead sign structures to accommodate the walk-through cabinets, all civil site work, and maintenance of traffic. Concentrated coordination was required between the New Jersey Turnpike, New Jersey Department of Transportation, and cabinet vendors for appropriate implementation of VMS components and system.

Bordentown Road over South River Bridge Replacement, County of Middlesex, East Brunswick, New Jersey: Project manager responsible for the complete structure replacement of the Bordentown Road Bridge over South River and the associated roadway widening and improvements. Project included development of contract plans and specifications, from conceptual formulation through final advertisement and bid evaluation. Project also included the application of all required environmental permitting and State Historic Preservation Office coordination. Existing roadway traffic is to be maintained on the bridge throughout new construction.

U.S. Route 1 & 9 Bridge Replacement, New Jersey Department of Transportation (NJDOT), Woodbridge, New Jersey: Task manager for the design of the replacement structure within the historic cloverleaf intersection of U.S. Route 1&9 over Route 35. Included was the preparation of an SHPO analysis, and design of a 130-foot single-span structure while maintaining traffic and all turning movements on both major roadways. Additional work included complete replacement of a new flyover structure for US Route 1 northbound over US Route 9 southbound, and design of various proprietary walls.

U.S. Route 1 Traffic Signal Contract #10, New Jersey Department of Transportation (NJDOT), New Jersey: Task manager for the final structural contract documents for the design of a traffic control system for Route 1 from Woodbridge to Trenton, including branch systems along Routes 18, 95, and 295. The project consisted of the installation of 70 miles of fiber optic cable over structures, variable message signs on overhead structures, 14 surveillance cameras, coordination of 44 signalized intersections, 2 highway advisory radio systems, and design of a traffic control center.

Movable Bridge Operator Manual Development, Northeast Corridor, Amtrak: Project manager for the development of movable bridge operator manuals for various bridges along the Northeast Corridor from Jersey through Connecticut, including the Portal swing, Spuyten Duyvil swing, Connecticut River bascule, Niantic River bascule, Shaw's Cove swing, and the Mystic River swing bridge. The project included the complete procedural evaluation of the bridge operation for incorporation and development of an operator manual specifically tailored to the operations of each individual bridge. The manuals included standard policies, safety elements, general bridge information, operating procedures, navigational issues, and bridge operation under unusual conditions.

Mark Minkley, RLA

Project Role: Project Manager

Education

Bachelor of Landscape Architecture (BLA), 1994, Texas Tech University, Lubbock, Texas

Professional Registrations

Registered Landscape Architect, New York

Total Years of Experience:

years with AECOM: 15
years with Other Firms: 2

Employment History

2006-Present: AECOM (formerly EDAW, Inc.)

2001-2005: Thomas Balsley Associates

1995-2001: EDAW, Inc.

1994-1995: Moore Icafano Goltsman

1993: EDAW, Inc.

With fifteen years of experience, Mark Minkley has extensive experience working on complex projects with sensitive environmental conditions and existing built constraints. He has led and managed design efforts for clients from design conception through construction on projects ranging from public parks and urban plazas to resorts and private residences. His design and construction experience make him a key member of the design team.

World Trade Center Public Realm, New York, NY: AECOM is creating the public realm for the World Trade Center (excluding the Memorial) in vibrant Lower Manhattan, catering to millions of tourists, visitors, commuters and residents. The project, which comprises the streets, plazas and parks within 'Ground Zero,' will unify and complete a 16-acre redevelopment project that includes five world class skyscrapers, a performing arts center, a regional multi-modal transportation hub and a state-of-the-art vehicle security center. The project involves significant coordination and consensus building with diverse stakeholders, high-end design resolution and integration of all aspects relating to pedestrian movement, transport, security and retail into a cohesive public realm. Mr. Minkley served as the Senior Landscape Architect for this project.

Kew Gardens Interchange, Kew Gardens, NY: As part of the widening and rehabilitation of nine bridges on the Van Qyck Expressway, AECOM is providing strategies to connect and restore the urban forest through the Briarwood Community of Queens. Our reforestation strategies improve the planting and visual context of the expressway frontage and its function as a transportation gateway from JFK Airport into Manhattan. This project also provides for green linkage from the expressway frontage to existing parkland and open space; increasing greenway corridors and providing larger viable forest areas to improve the urban environment and address issues of public health and climate change. This initiative, combined with a complimentary greening effort on Queens Boulevard, will increase street tree planting and the green streets program to contribute to achieving the PlaNYC goal of 30% canopy cover citywide by 2030. Mr. Minkley was the Project Manager and Landscape Architect. The project was funded by the New York State Department of Transportation (NYSDOT).

Reconstruction of the Pike Allen Street Malls, New York, NY: Sponsored by the New York City Department of Parks & Recreation, the reconstruction of the Pike and Allen Street Malls will create an enhanced and unified corridor for pedestrian and bicycle movement. The design will also generate a series of green, social and neighborhood spaces that respond to the Lower East Side and Chinatown neighborhoods. As a part of the East River Waterfront Framework Plan, this green corridor strives to create connections between the upland, city and the East River Waterfront. This project presents an opportunity to expand parkland by widening and possibly doubling the footprint of the malls with integrated park, bikeway and planted medians. Mr. Minkley served as the Project Manager and Landscape Architect.

PlaNYC Schoolyard Initiative, Brooklyn, Queens, Staten Island, NY: New York City Department of Parks & Recreation is sponsoring the redesign of 40 NYC standard schoolyards to make them more educational, more playable and greener. Our work included design

Mark Minkley, RLA, continued

days with teachers, administrators and students. These schoolyards will be open to the public after school hours and on weekends as part of the Mayor's PlaNYC 2030 plan to have a public park within a ten-minute walk of all New York residences. Mr. Minkley served as Project Manager and Landscape Architect.

Downtown Brooklyn Streetscape, Brooklyn, NY: Redesign of the streetscape of one of the main entries to Brooklyn via the Manhattan Bridge to make it into a pedestrian-friendly boulevard, to support the rezoning for the area. As the prime consultants, the team is also coordinating the work of civil engineering and traffic planning. Sponsored by New York City Economic Development Corporation (NYCEDC) with Mr. Minkley serving as Project Manager and Landscape Architect.

East River Greenway, New York, NY: As part of the New York City Economic Development Corporation East River Bikeway and Esplanade Master Plan and the PlaNYC 2030 1,800-mile Bike Master Plan, the East River Greenway provides an important missing link in realizing a continuous bikeway and esplanade. The schematic design utilizes existing caissons installed in 2004 as part of the Outboard Detour Roadway for the rehabilitation of the tri-level FDR Drive. These existing structures will support the new two-lane bikeway and pedestrian esplanade between East 53rd Street and East 59th Street. Sustainable design elements are integral to the new link. Green roof shade structures are self-sustaining collectors of rain water that is reused through a rain barrel irrigation system. Fitration gardens catch stormwater, filtering it through a linear plant system that cleans the water through a biofiltration system. The palette for lighting, public seating, waterfront railing, and paving systems connect the new esplanade to the larger East River system. Mr. Minkley serves as Project Manager and Landscape Architect.

MTA LIRR 50th Street Open Space, New York, NY: As part of the LIRR connection to Grand Central Station, the 50th Street Open Space envisioned a new urban oasis, building upon the existing pocket park network, including Paley Park and Greenacre Park, in midtown Manhattan. The park will feature an illuminated glass water wall, an understory forest planting, green walls and a planted trellis. Stone benches and moveable tables and chairs will provide for an active open space for business people, residents and visitors. Mr. Minkley served as the Project Manager and Landscape Architect. The project was sponsored by the Metropolitan Transportation Authority of the State of New York.

Fulton Mall Streetscape, Brooklyn, NY: As the cornerstone of the 2004 Downtown Brooklyn Plan, the redesign of the Fulton Street Mall focuses on place-making and connects the street to the surrounding cultural, civic and residential communities. AECOM's redesign incorporates cultural and event programming to draw and capitalize on nearby cultural and educational resources, expanding the user group of the mall by creating a local and regional destination. The streetscape creates a palette for lighting, expands the public space at the heart of Albee Square, introduces historical signage, areas for public seating, and incorporates new NYCDOT street furniture elements. AECOM explored ways to incorporate sustainable design components, including porous paving, continuous tree trenches utilizing structural soil and the use of appropriate plant species. Mr. Minkley served as Project Manager and Landscape ARchtiect. The project was sponsored by the New York City Economic Development Corporation (NYCEDC).

164 Kent Avenue, Brooklyn, NY: Sponsored by RD Management with Mr. Minkley as the Project Manager and Landscape Architect, this residential complex includes affordable housing and luxury condominiums on the East River. It will be one of the first buildings to be designed and built under the new Greenpoint Williamsburg Zoning Resolution which mandates public access to the waterfront. We are developing the prototypes for design to meet the very detailed requirements, and are coordinating the design with the New York City Department of City Planning.

Jacob J. Javits Federal Building, New York, NY: Created a complex balance between the federal government's First Impressions program to create vibrant open spaces and to comply with heightened security standards for federal facilities, a new plaza, entrance pavilion and raised terraces welcome visitors on Broadway. Information kiosks, cafes and seating activate the public space.

Sandy Murphy, PE

Project Role: Project Manager

Education

MS, Civil Engineering, City University of New York, 1992
BS, Civil Engineering, Union College, 1982

Registrations

PE: NY, 1987, Registration No.: [redacted]

PE: CT, 1994, Registration No.: [redacted]

Professional Associations

American Society of Civil Engineers (ASCE)
ACE Mentor Program of CT, Treasurer
ACE Mentor Program of CT, Board of Directors

Experience

Years with AECOM: 22
Years with other firms: 6

Employment History

1988-present: AECOM, Senior Project Director

Mr. Murphy provides management, technical direction, and quality assurance with expertise in conceptual and preliminary designs and the preparation of contract plans for transportation and major site development projects. Mr. Murphy specializes in highway design, including highway alignment design, traffic studies, grading and paving, construction sequencing, and maintenance of traffic during construction.

The Port Authority of New York and New Jersey, Call-In Engineering Services, New York, New York: Project manager for an indefinite quantity contract. Managed pavement condition surveys and the design of alignment, grading, and drainage improvements on airport vehicle service roads and apron areas.

The Port Authority of New York and New Jersey,Central Terminal Building Expansion, LaGuardia Airport, Flushing, New York: Project engineer for civil works, responsible for the roadway design, maintenance of traffic, and construction sequencing for a $50 million central terminal building expansion.

New York State Department of Transportation, Bridge Preventive Maintenance Construction Inspection, Islip and Brookhaven, New York: Project manager for construction inspection services for various bridge repair operations including structural lifting, concrete bridge seat and pedestal replacement, bearing replacement, removal and replacement of armored bridge joints, various concrete repairs to remaining abutments and pier caps, and milling and paving existing asphalt overlay. The two locations are the Sagtikos Parkway over LIRR and Pine Aire Drive in Islip and the LIE service roads over Nicolls Road in Brookhaven.

New York State Department of Transportation - Region 10, CI Priority Surface Treatment Construction Inspection, Hempstead, Brockhaven, and Smithtown, New York: Project manager for construction inspection for 4.2 km of pavement reconstruction (asphalt concrete milling and resurfacing) on Routes NY 25A, NY27, and Sunken Meadow Parkway exit ramp.

New York State Department of Transportation - Region 11, Route 9A Promenade (Battery Place to Chambers Street) Construction Support Services, New York, New York: Project manager for construction support services for reconstruction of Route 9A (West Street) from Battery Place to Chambers Street. Managing work associated with modifications to the Liberty Street pedestrian bridge including the temporary Cedar Street extension, modifications to the Rector Street pedestrian bridge and the adjacent West Street underpass, and deconstruction of the Vesey Street temporary pedestrian bridge. Managing response to unanticipated and changed field conditions, review of construction methods proposed by the contractor, and review of shop drawings and contractor submittals for consistency with contract documents.

New York State Department of Transportation - Region 11, Vesey Street Temporary Bridge East End Deconstruction Construction Support, New York, New York: Project manager for construction support

Sandy Murphy, PE, continued

services on the bridge east end deconstruction project.

New York State Department of Transportation, Route 9A Reconstruction, New York, New York: Project highway engineer responsible for construction staging and maintenance and protection of traffic for two major reconstruction contracts in the vicinity of the World Trade Center – the creation of a promenade extending from south of the World Trade Center site to the southern terminus of West Street and Battery Place (the Promenade South contract and reconstruction of Route 9A at the World Trade Center site, potentially including a 1,000-foot-long bypass tunnel structure. Also, project manager responsible for administering construction support services for the Promenade South contract.

New York State Department of Transportation, Undercliff Avenue Bridge, Cross Bronx Expressway, Bronx, New York: Project highway engineer for preliminary and final design of the reconstruction of a two-span structure over the Cross Bronx Expressway (CBE). The project includes reconstruction of the structure to eliminate the center pier and accommodate widening of the CBE.

New York State Department of Transportation, Cross Bronx Expressway Bridge Rehabilitations, Bronx, New York: Project highway engineer for preliminary and final design (Phases I-VI) of 14 bridges on or spanning the expressway from Morris Avenue to the Sheridan Expressway including redesign of the Sheridan Expressway (I-895) interchange. Other elements of the contract include traffic studies for the development of construction staging and maintenance and protection of traffic plans, accident study, utility study, and environmental study (hazardous material mitigation).

New Jersey Department of Transportation, I-80/I-95 (Sections E & J) Rehabilitation and Operational Improvements, Bergen County, New Jersey: Project engineer responsible for construction staging for the proposed improvement to 2.5 miles of I-80 and I-95, including the I-80/I-95 interchange. The project involves the redistribution of traffic lanes and pavement rehabilitation on I-80 eastbound, I-95 southbound, and the interchange connecting these two interstates, as well as the design of noise barriers located within the I-80/I-95 corridor from the Hackensack River to Route 46.

New Jersey Department of Transportation, Route 1&9 Improvements, Hudson and Bergen Counties, New Jersey: Project engineer responsible for construction staging for a 6.2-mile section of Route 1&9. The project includes restoring, rehabilitating, and updating the roadway section to current standards, as well as signage and other existing highway appurtenances. The design requires full depth pavement reconstruction and the replacement of the existing drainage system.

New Jersey Department of Transportation, I-80 (Section I) Westbound Rehabilitation and Operational Improvements, Bergen County, New Jersey: Project engineer in charge of construction staging and scheduling of the proposed 1.5-mile widening of Route 80 westbound local roadway, which includes the addition of 850 feet of noise walls beyond the project limits.

New Jersey Department of Transportation, Route 1&9 Elizabeth River Viaduct, Elizabeth, New Jersey: Technical reviewer of construction staging for the replacement of the existing 2,000-foot-long viaduct.

New York State Department of Transportation,Wantagh Parkway Bridge over Sloop Channel (Phase I-IV), Nassau County, New York: Reviewed alternatives as highway engineer for the replacement of the 576-foot-long, 18-span, 70-year-old Sloop Channel Bridge.

New York State Department of Transportation, Avenue C Viaduct, FDR Drive, New York, New York: Project highway engineer for the final design of the rehabilitation and realignment of a 46-span viaduct. The project included the complete rehabilitation of the viaduct structure, alignment and operational improvements, the replacement of drainage and lighting systems, repairs, reconstruction, and an extension of riverfront fill-retaining structures.

Jerry Parnes, PE

Project Role: Project Manager

Education

BA, Civil Engineering, City College of New York, 1972

Registrations

PE: NY 1981, Registration No.: [redacted]

PE: NJ 1981, Registration No.: [redacted] Civil)

Professional Associations

Concrete Industry Board (CIB)
- President, 2002 to 2004
- Advisory Board, President

American Society of Civil Engineers (ASCE)

National Society of Professional Engineers (NSPE), Former Member

Structural Engineers Association of New York (SEANY), Former Member

Prestressed Concrete Institute (PCI), Former Member

American Concrete Institute (ACI) Fellow
- ACI Committee 201 - Concrete Durability, Associate Member, 1995
- ACI Committee 214 - Strength Evaluations, Voting Member and Secretary, 1995

Experience

Years with AECOM: 9
Years with other firms: 0

Employment History

2001-present: AECOM, Structural Engineer
1972-1973: Hazen and Sawyer, Resident Inspector
1973-1973: AECOM (Metcalf & Eddy), Civil Engineer
1973-1974: James Owen Power, Designer/Draftsman
1974-1997: Hazen and Sawyer, P.C., Vice President, Head of Structural Department
1997 Desman Associated, Inc., New York, New York, Chief Structural Engineer

Mr. Parnes has extensive experience in structural design and construction supervision of transportation projects, as well as water/wastewater facilities. He has completed numerous designs involving reinforced and prestressed concrete, structural steel, masonry and wood for many public works facilities. Types of structures designed include power generation facilities, solids handling and incineration buildings, main equipment handling and maintenance buildings, process buildings and tanks, pumping stations, rigid frames, cofferdams, reservoir diversion tunnels, intake structures and access bridges, tunnels, pipe support towers, outfalls pipelines, and transportation related facilities. All designs conformed to the latest requirements of the ACI Code, AISC Structural Steel handbooks, ANSI and other applicable codes. Techniques used include matrix method computer analysis, STAAD and STRUDL analysis, PCA moment distribution, seismic and finite element analysis.

He has performed investigations of structural defects such as cracking, deterioration and corrosion of concrete and steel for and reported on probable causes and methods of repair for many upgrade and rehabilitation projects. During various engineering investigations, he developed concepts for rehabilitation of historic public works projects.

Mr. Parnes has served as team captain and participant on structural value engineering teams performing life-cycle cost analysis and design reviews for various treatment plant facilities. His findings and recommendations have resulted in substantial savings in costs to the owners.

As a volunteer, Mr. Parnes recently completed his second year as President of the Concrete Industry Board of New York, which is a non-profit organization comprised of over 120 Architecture/ Engineering/Construction firms in the New York region. Mr. Parnes was instrumental in obtaining New York State approval for the Concrete Industry Board to serve as an authorized provider of Professional Engineering courses required to maintain a NYS PE license. He presently serves on the Board of Directors and is also a Director on the Concrete Industry Foundation which focuses on awarding scholarships for students involved in Design and Construction related curriculum.

PANYNJ World Trade Center Transportation Hub (PATH), Port Authority of New York and New Jersey (PANYNJ), Manhattan, New York: Chief structural engineer on the World Trade Center HUB project for the PANYNJ. Under the Joint Venture of AECOM's legacy company DMJM Harris and STV, called the Downtown Design Partnership, overseeing the structural design of the new PATH Station, managing the efforts of over 90 structural engineers from various joint venture firms, and responsible for the signing and sealing of the structural documents.

American Airlines New Terminal Construction, JFK International Airport, Queens, New York: Project director and engineer of record on this project that open its first phase on August 24, 2005. Responsibilities included liaison with the client and Port Authority of New York and New Jersey, managing a design office on site, inter-company back office coordination,

Jerry Parnes, PE, continued

and obtaining permits from the Port Authority.

Second Avenue Subway, MTA Capital Construction/New York City Transit, New York: As concrete and waterproofing specialist and structural team leader for the tunnel portions, provided services for preliminary engineering.

Croton Water Treatment Plant for the New York City Department of Environmental Protection, New York: Led the design team on this project.

Paerdegat Combined Sewer Overflow Facilities, Brooklyn, New York: Led the design team on this project.

Sludge Dewatering Facilities, New York City Department of Environmental Protection (NYCDEP), New York: Provided construction support for this project.

Hemlocks Water Treatment Plant for Bridgeport, Connecticut: Provided construction support for this project.

Brooklyn Navy Yard Outfall and Cooling Water Intake Tunnel, Brooklyn Cogeneration Partnership, Brooklyn, New York: Provided construction support for this project.

City of New York Sludge Management Program, New York: Project manager responsible for staffing and leading structural engineers and draftsmen of a joint venture of several firms in designing and providing field support for this that project encompassed design and construction of facilities to dewater sludge at various sites, estimated at $750 million. In order to meet 1992 consent decree deadlines to stop ocean dumping of sludge, contracts were phased to enable fast track construction. Computer aided design and drafting were fully utilized.

Bay Park Water Pollution Control Plant, Nassau County, New York: Concurrently served as structural project manager for design and construction of facilities. This project involved design and construction for various buildings and process tanks for a 70 million-gallon-per-day wastewater plant upgrade.

Unlined Tunnel, Charleston, South Carolina: As resident engineer, supervised construction of a 2.5-mile unlined tunnel through marl. A world's record for seven-day TBM advance was set.

Ana Peraza, PE

Project Role: Project Manager

Education

BS, Civil Engineering, 2001, New Jersey Institute of Technology

Professional Registrations

PE: NJ, 2006, Registration No.: [redacted]

Professional Affiliations

American Society of Civil Engineers (ASCE)
American Society of Highway Engineers (ASHE)

Experience

Years with AECOM: 10
Years with other firms: 1

Employment History

2001-present: AECOM, Project Engineer

Ana Peraza has more than ten years of professional design experience on highway projects. Tasks range from local roadway work to state highways u-0sing New Jersey Turnpike Authority, New Jersey Department of Transportation and ASSHTO standards. Project experience includes the design and coordination of engineering efforts in the development of highway geometry, design of roadway-roadside safety devices, construction estimates, specifications, design and construction schedules and the development of plans for right of way, construction, grading, pavement markings, signing and maintenance and protection of traffic. Ms. Peraza is experienced in the use of New Jersey Department of Transportation's Transport System, Primavera Project Planner, Highway Capacity Software, AutoCAD, AutoTurn, Microstation and InRoads.

Port Authority of New York and New Jersey, Path Yard, Hudson County, NJ: Project Engineer/Civil Task Leader. Responsible for the preliminary and final design phases of the design to improve circulation through the Path Yard. Tasks included the coordination of multiple disciplines such as surveying, geotechnical engineering, track work, civil/site work, structural engineering, lighting and signal design. Also, developed specifications, evaluated utility impacts, prepared roadway details, preliminary grading and drainage design.

New Jersey Department of Transportation, Route 23 Improvements, Sussex, NJ. Project Engineer and Civil Task Leader for intersection improvements along Route 23 in Hardyston Township: Tasks include coordinating subconsultants, utility accommodations, assessing right of way and access impacts, preparing and reviewing documentation to acquire right of way and access rights, developing horizontal and vertical alignments and preparing contract documents for final design.

Middlesex County, Ernston Road and Bordentown Avenue Intersection Improvements, Borough of Sayreville and Township of Old Bridge, NJ: Project Engineer. Responsible for task associated with finalizing design for the replacement of the existing Conrail Bridge over Ernston Road. The overall intersection improvements will relieve extensive traffic congestion; reduce excessive vehicular accidents; eliminate bridge and roadway deficiencies; and increase pedestrian mobility and safety. The proposed railroad bridge is the focus of the intersection improvements providing for increased vehicular circulation and widening of the present Ernston Road constriction. 2009

New Jersey Department of Transportation, Roff Avenue over Route 46, Bergen County, NJ: Deputy Project Manager and Project Engineer for a stimulus project to replace the superstructure of the Roff Avenue Bridge over Route 46. Tasks include coordinating subconsultants, utility accommodations, maintenance and protection of traffic and vertical alignment and grading on this fast-track project.

Casino Reinvestment Development Authority, Bader Field Preliminary Design Assessment, Atlantic County, NJ: Civil task leader responsible for developing conceptual alternatives to connect the Bader Field property to Atlantic City and adjacent highways via

Jerry Parnes, PE, continued

ramps and structures. Developed horizontal and vertical alignments and preliminary cost estimates to evaluate the benefits of the different alternative access points.

City of Newark, McClellan Street Underpass, Essex County, NJ: Civil task leader responsible for a scoping study to repair, widen or replace the existing McClellan Street Underpass carrying the Amtrak Northeast Corridor Line in the City of Newark. Investigated several alternatives to address the substandard vertical clearance at the underpass maximizing economy for the roadway link, while alleviate the existing flooding problems and improve traffic operations and safety in the project area.

New Jersey Department of Transportation, Millstone River Bridge Replacement, Mercer County, NJ: Project Engineer and Civil Task Leader for the breakout project from the NJDOT Route 1 Penns Neck project. The project consists of replacing the existing deficient 3 span structure with a new bridge. The bridge cross section is being designed to accommodate the final roadway cross section as outlined in the Penns Neck EIS. The design presents a challenge in that it is necessary to establish right of way and retaining wall locations based on the conceptual design as outlined in the EIS, in preparation for the future Penns Neck Contract. Preliminary and Final Design Tasks are being prepared in accordance with the NJDOT Procedures Manual. Tasks include design of vertical and horizontal geometry, signing and striping, guide rail, and maintenance and protection of traffic in accordance with the NJDOT Roadway Design Manual, Right of Way Manual, and MUTCD. Prepared a final design submission including construction plans and specifications (special provisions). Managed and coordinated subconsultant utility and survey tasks.

Middlesex County, Blair Road over Woodbridge Creek, Woodbridge Township, NJ: Project Engineer and Civil Task Leader for the Final Design of the bridge replacement of Blair Road over Woodbridge Creek and its approaches. Tasks included the preparation of final plans and specifications. Project included replacement of the adjacent Bridge over the Woodbridge Creek, roadway re-profiling and cross sectional development, drainage design, and meeting the requirements of the adjacent Conrail grade crossing embodied within the project roadway work. 2007

New Jersey Department of Transportation, Route 139 Contract 3, Hudson County, NJ: Project Engineer for all Civil Engineering Tasks for Final Design of 1.2 miles of Route 139 in Jersey City. Final Design of this work consisted of finalizing design-construction plans, grading plans, drainage design, environmental plans, utility plans, traffic control, specifications (special provisions) and construction staging plans, design of 7 temporary and 5 permanent traffic signals. This work required coordination of two separate construction contracts within the project scope as well as adjacent projects by separate agencies.

New Jersey Turnpike Authority, Driscoll Bridge Rehabilitation, Middlesex County, NJ: Project Engineer responsible for the project coordination and design of the approaches of the $200 million rehabilitation of the approximately 4,400-foot long, high-level Garden State Parkway (GSP) Bridge over the Raritan River. The project also includes substantial approach work including the widening of the GSP. Task included researching the use of contrast striping (white on black) on the new concrete deck and hydromilling as a method of compound removal. The rehabilitation will entail substantial maintenance and protection of traffic including providing a contraflow lane on the newly constructed southbound bridge, to provide seven northbound lanes and six southbound lanes at all points during the rehabilitation of the existing bridges. Several staging alternatives were developed to illustrate the preferred method of rehabilitating the existing bridges while minimizing the traffic impacts to the heavily traveled corridor. The maintenance and protection of traffic requires the design of alignments, profiles, temporary drainage, and signage. Extensive coordination was required with NJHA, Joint Venture partners and subconsultants.

Tom Quaranta

Project Role: Project Manager

Education

MS, Construction Management, Columbia University, 1980
BS, Civil Engineering, Columbia University, 1976

Professional Associations

Construction Management Association of America (CMAA) Fellow
- CMAA Past President (Nationally), 2000-2001
- CMAA Advisory Board, Metro NY/NJ Chapter, Fellow
Industry Advisory Board (Construction Engineering & Management), Columbia University

Experience

Years with AECOM: 7
Years with other firms: 27

Employment History

2003-present: AECOM, Quality Assurance Manager
1976-2003: Parsons Brinckerhoff

Mr. Quaranta has extensive construction management experience at staff and project levels on both foreign and domestic projects. A nationally recognized leader in construction management, he was elected president of the Construction Management Association of America (CMAA), a national organization dedicated to education and representation. He was also appointed to the Industry Advisory Board for Construction Engineering and Management, Department of Civil Engineering at Columbia University. He is a lecturer at Columbia University, Pratt Institute, and Lehigh University.

Terminal One, JFK International Airport, Terminal One Group Associates, Jamaica, New York: Contract Principal responsible for overseeing program management services on behalf of Terminal One Group Associates, for the construction of a new terminal servicing Air France, Lufthansa, Japan Airlines, and Korean Air.

LaGuardia Airport Redevelopment Program, Port Authority of New York and New Jersey (PANYNJ), Flushing, New York: Contract principal as sub-consultant for oversight of program management services.

Fire and Life Safety Program, Amtrak, Metropolitan New York, New York: Officer in charge of three construction management contracts for tunnel ventilation facilities in Manhattan and Long Island City, New York, and Weehawken, New Jersey.

Tappan Zee Bridge, New York State Department of Transportation (NYSDOT)/New York City Transit Authority (NYCTA)/MTA Metro-North Railroad (MNR), Westchester and Rockland Counties, New York: Program controls manager for stage 2 environmental studies for $10 billion in improvements to the 30-mile I-287 corridor between the I-287/I-87 interchange at Suffern, New York, and the I-287/I-95 interchange in Port Chester, New York. The project involves major improvements to the Tappan Zee Bridge, including potential linkage to existing commuter rail lines in three counties.

Cardinals Stadium Due Diligence, Lexington Insurance Company, Phoenix, Arizona: Project manager responsible for conducting project evaluations in conjunction with professional liability insurance coverage. The project goal was to minimize risk by ensuring that the design-build contractor was performing satisfactorily. Services included a review of the lift plan procedures for the retractable roof, the heaviest lift ever undertaken in North America. Also reviewed scheduling and safety controls. The lift was completed without incident, and the $355 million stadium was completed in time for the 2006 National Football League season.

Indiana Stadium Due Diligence, Lexington Insurance Company, Indianapolis, Indiana: Project manager responsible for conducting project evaluations in conjunction with professional liability insurance coverage.

DC Major League Ball Park Stadium Due Diligence, Lexington Insurance Company, Washington, DC: Project manager responsible for conducting project evaluations in conjunction with professional liability insurance coverage.

Tom Quaranta, continued

Third Avenue Bridge, New York City Department of Transportation (NYCDOT), New York, New York: Principal in charge for resident engineering and inspection services.

Tomlinson Bridge Replacement, Connecticut Department of Transportation (ConnDOT), New Haven, Connecticut: Principal in charge for construction engineering and inspection services.

North Channel Bridge, New York State Department of Transportation (NYSDOT), Queens, New York: Principal in charge for construction inspection services.

Newport Bridge, Rhode Island Turnpike and Bridge Authority, Newport, Rhode Island: Field engineer for annual physical condition inspections.

I-80 Bridges, New Jersey Department of Transportation (NJDOT), New Jersey: Field engineer for structural inspection of 102 highway and railroad bridges.

Somerset County Bridges, County of Somerset, Somerset County, New Jersey: Field Engineer for structural inspection of 35 concrete arch steel stringer and truss bridges.

Manhattan Bridge Reconstruction, Contract #6 & #10, New York City Department of Transportation (NYCDOT), New York, New York: Principal in charge for resident engineering and inspection (REI) sub-consultant services.

Brooklyn Queens Expressway, 25th Avenue to Broadway, New York State Department of Transportation (NYSDOT), Queens, New York: Principal in charge for construction inspection services.

I-287 Viaduct Replacements, Westchester Co., New York State Department of Transportation (NYSDOT), New York: Principal in charge for construction inspection services.

I-95 Rehabilitation, Connecticut Department of Transportation (ConnDOT), Guilford, Connecticut: Principal in charge for construction inspection services.

Westway Highway Project, New York State Department of Transportation (NYSDOT), New York City: Project controls engineer responsible for cost and schedule reporting.

South Street Seaport Redevelopment, New York City Public Development Corporation, New York City: Project manager responsible for project control services for this $350 million project, and construction manager for the rehabilitation of Pier 17 streetscape and the Fulton Fish Market buildings rehabilitation. (1983/1983/NA)

Aquaculture Project, El Abbasa, Egypt: Scheduler for construction of fish farming units, drainage system, roadways, and housing complexes.

Seatrain Lines Shipping Pier, Seatrain Lines, Weehawken, New Jersey: Inspector for dredging operations.

Underwater Surveyor on the following facilities: Cove Point Marine Facilities, Maryland; Virginia Port Facilities, Norfolk, Virginia; Nacote Creek Bridge, Atlantic County, New Jersey; Elizabeth River Tunnels 1 & 2, Portsmouth, Virginia.

Stamford Rail Yard Rehabilitation, Connecticut Department of Transportation (ConnDOT), Stamford, Connecticut: Principal in charge of construction engineering and inspection (CEI) services.

Meadows Rail Equipment Maintenance Facility, NJ Transit, Kearny, New Jersey: Served on the construction management joint venture board of control for the construction of $100 million rail maintenance facility.

Times Square Subway Complex Reconstruction, Park Tower Realty, New York City, New York: Project manager for a private developer responsible for logistics, value engineering, constructibility review, and cost estimating as part of preconstruction phase services.

Donald E. Quast, PE

Project Role: Project Manager

Education

MS, Geotechnical Engineering, Syracuse University, 1983
BS, Civil Engineering, Syracuse University, 1981

Registrations

PE: NY, 1992, Registration No.: [redacted]

Experience

Years with AECOM: 24
Years with other firms: 2

Employment History

1984 to 1986 PRC Harris, Inc. Geotechnical Engineer

1986 to 1988 Parsons Brinckerhoff, Inc. Geotechnical Engineer

1988 to 1994 Frederic R. Harris, Inc. Geotechnical Engineer/ Resident Engineer

1994 to 2001 DMJM + Harris, Inc. Geotechnical Department Manager

2001 to 2008 DMJM + Harris, Inc. Project Manager, American Airlines

2008 to 2010 AECOM USA, Inc. Project Manager, Port Authority of NY and NJ

Mr. Quast has been serving as a project manager at the JFK Bay Runway Reconstruction Project for the Port Authority of New York and New Jersey (PANYNJ) since 2008. Prior to that, he was project manager at the American Airlines Terminal Project for all civil-related work and for building foundations, serving on that project since 2001. Mr. Quast's current duties include serving as acting program manager for the day-to-day construction activities on the Runway Project, in support of the PANYNJ. For American Airlines, he acted as a Project Manager and the Engineer of Record for both airside and landside work, along with overseeing all foundations on the project. He also has specialized experience in geotechnical analysis, subsurface investigations and construction inspection of various projects. His professional experience encompasses work on airports, buildings, highways and bridges, pavements, piers, ports and harbors, as well as dams and landfills.

Bay Runway Reconstruction Project, PANYNJ, JFK International Airport, Queens, New York: Program/project manager in charge of a small team in support of the PANYNJ in the supervision, oversight and monitoring of day-to-day construction activities. The authorized Total Project Cost of the Bay Runway is $376 million. Responsibilities included oversight of the project from 50% design up to completion of the main construction phases including 100% design drawings, presentation to the Board for authorization and award, and project management services during the construction. Project involved coordination among many team members including the different operating groups of the Port Authority, the FAA, the Airlines, and the Community. The main phase of the construction was a 120 day period in which 11,900 feet of runway was totally reconstructed and returned back to service both ahead of schedule and under budget.

American Airlines, JFK International Airport, Queens, New York: Project manager and engineer of record for civil airside and landside contracts, for construction of the new Terminal 8. Responsible for coordinating design between office and field operations and for ascertaining that all work done in the field is in accordance with design documents and Port Authority standards and guidelines. Responsible for review and negotiation of change orders, over-seeing the on-site inspection and office staff, and coordinating and advising American Airlines of on-going design and construction. Assisted American Airlines in the construction of the GSE Building built adjacent to the active Air-train, construction of the Suspect and Left over Bag Room, and modification of the Gates in Terminal C to accept the Regional Jets.

Was also the lead Geotechnical Engineer, responsible for all geotechnical work on the project including the design, construction, and inspection of over 8,000 - 30 ton timber, piles for the building structure, 400 steel pipe piles for the tunnel between concourses and over 500 – 180 ton taper-tube piles for the elevated frontage roadway. Also coordinated the construction of the 600 foot cut and cover tunnel that transports passengers from the Main Terminal to Concourse C, all Airside pavement work, Lighting

Donald E. Quast, PE, continued

Structures, Over-head Signs, and a reinforced earth wall for the bridge abutments.

The Port Authority of New York and New Jersey, Port Ivory New Intermodal Container Transfer Facility (formerly Howland Hook Marine Terminal), Container Transport Technology, Staten Island, New York: AECOM was authorized to investigate the upland areas of this facility to determine the reason for excessive settlement, and to recommend a solution that would minimize disturbance to the active facility. The site was underlain by various types of fill, and soft organic deposits. As geotechnical engineer, responsible for field investigation, geotechnical analyses, and preparation of soils report.

President Club, Continental Airlines, Newark Airport, New Jersey: Geotechnical engineer involved in the planning and the layout of the subsurface exploration program. Coordinated communications with Port Authority, Continental, and the drilling subcontractor. Also involved in preliminary foundation design and the preparation of the geotechnical report.

Marine Division, Whitehall Ferry Terminal, New York City Department of Transportation (NYCDOT), New York: Prepared, coordinated and inspected the field exploration program for the driving of a fender pile system. Prepared foundation report summarizing findings. Also addressed the feasibility of using the "Tubex" system for rock drilling and socketing of piles.

Maumee Bay Lighting Structures, Lake Erie, U.S. Coast Guard, Toledo, Ohio: Assisted in preparing and inspecting subsurface investigative program for the construction of permanent lighting structures along the Great Lakes Shipping Channel. Also assisted in analyses, design and the preparation of the report.

General Dynamics, Aberdeen, Maryland: Assisted in the analysis and design of a sheetpile bulkhead, a pile foundation for a concrete slab upon which a crane was to operate, and a deep pond for submarine hull testing. Also assisted in the preparation of the geotechnical report.

Rye Playland Pier, Westchester County, Rye, New York: As geotechnical engineer, prepared, coordinated, and provided inspection of a field exploration program. Performed analysis of timber pile foundation for existing pier, and designed new pipe pile foundation for the construction of a floating marina. Design and analyses included axial capacity of pile in tension and compression, and lateral load computations.

Noble Street Pier, New York City Department of Sanitation (NYCDOS), Brooklyn, New York: As geotechnical engineer prepared subsurface investigative program and subcontractor documents. Selected laboratory testing, and performed geotechnical analysis and design for a new pier and a bulkhead. Also prepared preliminary design report related to the geotechnical aspects of the project.

Kings Bay Magnetic Silencing Facility, United States Navy, Kings Bay, Georgia: Responsible for the coordination and inspection of field investigation to determine subsurface conditions in a channel for the purpose of installing magnetometers to record the magnetic signature of Navy vessels. Developed report summarizing findings and presenting recommendations.

Homeporting for Battleship Surface Action Group (SAG), Naval Station, Naval Facilities Engineering Command (NAVFAC) Northern Division, Staten Island, New York: As geotechnical engineer, supervised offshore boring program and laboratory testing. Also assisted in the pile and bulkhead design.

Trident Tender Mooring Facilities, Naval Facilities Engineering Command (NAVFAC), Kings Bay Naval Submarine Base, Georgia: As geotechnical engineer, assisted in pile inspection and testing. Designed foundations, wick drains and surcharge for onshore facilities.

Throgs Neck Bridge Toll Plaza and Approach Design: As lead geotechnical engineer, developed subsurface program to determine soil conditions for reconfiguration of the toll plaza. tunnel or overpass to provide employees access to toll booths.

Lou Rondinello, PE

Project Role: Project Manager

Education
BS, Civil Engineering, Rochester Institute of Technology, NY, 1990

Registrations
PE: NY, 2003, Registration No.: [redacted]

Professional Associations
American Society of Civil Engineers (ASCE)

Experience
Years with AECOM: 18
Years with other firms: 7

Employment History
1992-present: AECOM, Civil Project Engineer

1990-1994: F.R. Harris, New York NY

1994-1997: TAMS Consultants, Inc., New York NY

1997-2002: B-A Engineering P.C., New York, NY

Mr. Rondinello has significant experience as a project manager and senior civil engineer whose technical background encompasses a wide range of experience with the production of plans, specifications, and reports that includes the planning, analysis, and design of perimeter detection security systems, perimeter vehicle crash barrier protection systems roadway networks, drainage systems, and site/parking lots. He has worked for governmental and private agencies on projects from conceptual through final design phases for airport airside and airside operations areas, airport terminal/circulation roadways, and airport parking. He has successfully implemented significant security improvement to both landside and airside operations. Mr. Rondinello is also experienced with highway/expressway roadways, and railroad parking facilities and station improvements.

Airside Perimeter Strengthening, Port Authority of New York and New Jersey, John F. Kennedy International Airport, LaGuardia Airport, Newark Liberty International Airport, and Teterboro Airport: Prepared a stage I reports for implementing crash protection along the airside operations areas perimeter for both the Port Authority and tenant-owned areas at JFK, EWR, LGA, and TEB airports for compliance to Department of State (DOS) and Department of Defense (DOD) approved crash rated vehicle barriers. Performed industry literature and product search to determine all suitable proprietary products and their associated cost and installation requirements, and a zone by zone analysis of the perimeter areas requiring vehicle crash protection to determine maximum vehicle speed possible based on physical geometry of roadway and pavement surface areas. Evaluated alternatives for proprietary products or other means to provide the required crash protection based on Port Authority-determined criteria.

Guard Post Hardening and Security Improvements, Port Authority of New York and New Jersey (PANYNJ), John F. Kennedy International Airport, New York: Project manager and senior civil engineer for security improvements to seven guard booth and guard posts accessing the airside operations areas. Prepared and coordinated preliminary through final contract documents. Assisted the Port Authority in developing guard post security improvements, including the installation of a prototype ballistic-rated guard booth, vehicle-rated crash barriers, card readers, and various other state-of-the-art technologies.

Guard Booth Hardening and Security Enhancements, Port Authority of New York and New Jersey (PANYNJ), Newark Liberty International Airport, New Jersey: Project manager and senior civil engineer for security improvements to seven guard booth and guard posts accessing the airside operations areas. Responsibilities included working with the multi-discipline design team in preparing and coordinating draft through final contract documents. Assisted the Port Authority's engineering and technology services departments in developing guard post security requirements.

Perimeter Intrusion Detection System (PIDS) Planning Documents Upgrade, Port Authority of New York and New Jersey, John F. Kennedy International Airport, LaGuardia Airport, Newark

Lou Rondinello, PE, continued

Liberty International Airport, and Teterboro Airport: Deputyproject manager for a perimeter security improvements project around 60 miles of aircraft operations area and landside areas of the airports. Responsible for overseeing, designing, preparing, and coordinating security up-grade plans utilizing both ortho photography and topographic mapping. The security upgrade plans will be utilized by a design-build contractor in the preparation of the bid proposal, and will establish the basis for the design and implementation of a layered perimeter security system encompassing the airside operations area.

Security Buoys and Piles, John F. Kennedy International Airport and LaGuardia Airport, New York: Project manager and senior civil engineerfor the installation of buoys and piles on the United States Coast Guard 200-yard exclusion zone surrounding the airport shorelines. Designed, prepared, and coordinated draft through final contract documents of security buoy and timber pile layouts. Thurston Basin Water Barrier, John F. Kennedy International Airport, New York: Project manager and senior civil engineer for the installation of a 300-foot prototype security floating barrier across Thurston Basin. Designed, prepared, and coordinated draft through final contract documents for site design and floating barrier details.

Wantagh State Parkway Safety Improvements, New York State Department of Transportation (NYSDOT) Region 10, New York: Project manager for an interim safety improvement project of six interchanges on the Wantagh State Parkway. Prepared a draft white paper report to identify and prioritize a series of ramp and safety improvements to the six interchanges based on safety benefits.

Pipe Gallery Security Fence, Port Authority of New York and New Jersey (PANYNJ), Newark Liberty International Airport, New Jersey: Project manager and senior civil engineer for the installation of 2,700 feet of ornamental fence on top of the pipe gallery wall separating the landside and airside operations areas of terminals A, B, and C, and for the installation of fencing around the pipe galley electrical cabinets. Responsibilities included designing, preparing, and coordinating draft through final contract documents for site design and fencing details. Attended design meetings, evaluated and processed shop drawings, and prepared cost estimates and specifications lists.

Installation of Security Fences and Barriers, Port Authority of New York and New Jersey, Newark Liberty International Airport, New Jersey: Project manager and senior civil engineer for the installation of 2,000 feet of security fence and barriers and guide rail along the airside operations areas of parking lot P6, parking lot F, and Brewster Road. Responsibilities included designing, preparing and coordinating draft through final contract documents for site design, fencing details, and parking lot pavement markings.

South Fuel Farm Security Fence Replacement, Port Authority of New York and New Jersey, Newark Liberty International Airport, New Jersey: Project manager and senior civil engineer for the replacement of approximately 4,000 feet of security perimeter fence around the main jet fuel storage south fuel farm and adjacent peripheral ditch.

FAA Control Tower Security Fence Replacement, Port Authority of New York and New Jersey, Newark Liberty International Airport: Project manager and senior civil engineer for the replacement of 200 feet of ornamental security along the FAA control tower adjacent airport exit and recirculation roadways.

Airside Patrol Road and Security Fence, Port Authority of New York and New Jersey, Newark Liberty International Airport, New Jersey: Project manager and senior civil engineer for design of an airport operations area airside patrol road and security perimeter fence along runway 22L. Responsibilities included designing, preparing and coordinating draft through final contract documents for site design and grading and drainage.

Pedestrian Overpass ADA Rapms Van Wyck Expressway Inbound at JFK International Airport, Port Authority of New York and New Jersey, New York: Project engineer and senior civil engineer for the redesign of the existing pedestrian bridges over Van Wyck Expressway in compliance with ADA standards.

Antonio J. Rosciglione, AIA

Project Role: Project Manager

Education
BA, Architecture, New Jersey Institute of Technology - School of Architecture, 1992

Registrations
RA: NY, 2005, Registration No.: [redacted]

NCARB

Professional Associations
American Institute of Architects (AIA)

Experience
Years with AECOM: 7
Years with other firms: 0

Employment History
2003-present: AECOM, Architect

2003AECOM - DMJM Aviation, New York, NY, Architect

Mr. Rosciglione has over eighteen years experience in the construction, architectural/engineering and construction management industries. This includes experience in project/ construction management, quality assurance (QA) inspection, contract and code compliance, problem resolution, contract document interpretation, cost estimation, schedule and cost control, contract administration and agency/ designer coordination. Mr. Rosciglione holds confined space certification and is OSHA certified.

John F. Kennedy International Airport, American Airlines Terminal Redevelopment, Jamaica, New York: Project architect for $1 billion program to construct and commission the new American Airlines terminal at John F. Kennedy International Airport. Oversaw every facet of new construction and associated life safety systems with review by Port Authority of New York and New Jersey. Working closely with the lead architect, was responsible for architectural design and construction and building commissioning at JFK International Airport. Coordinated site-related architectural/engineering coordination with other disciplines and American Airlines; architectural design of changes due to site conditions and client requests; architectural and engineering site inspection services, including responding to contractor requests for information; and life-safety and building code interpretation. Responsibilities included extensive interaction with contractor and subcontractor for on-site resolution/clarification of design.

World Trade Center PATH Station Reconstruction: Deputy project controls manager for $2.4 billion project to reconstruct and commission transportation hub at the World Trade Center site. Coordinate various design disciplines for timely delivery of design packages to Port Authority of New York and New Jersey for issuance to contractor for phased construction of new transportation hub as designed by Santiago Calatrava. Establish and monitor milestones for deliverables. Coordinate interdisciplinary responses to submittals and request for information. Review phasing and constructability of designs with Port Authority and contractor. Perform services during construction for submittal and request for information coordination amongst client, designers and contractor.

New York City Transit, 8 Escalators at Bowling Green Station, New York, New York: Construction manager for $13 million New York City Transit construction project to remove and replace eight escalators with associate upgrades to the communication, fire suppression and detection.

Long Island Rail Road, Ronkonkoma Automated Train Wash Facility, New York: Assistant project manager for $8 million LIRR project to construct a new train wash facility. Monitored schedule, budget, safety and quality for the Long Island Railroad.

New York City Transit, Atlantic Terminal, Brooklyn, New York: Construction coordinator for NYCT. Acted as liaison and facilitator between design consultant and various MTA, NYCT, and LIRR departments to aid in the design process, conformance with scope, constructibility, value engineering and packaging of the Reconstruction of Atlantic Terminal. Performed General Order forecasting, value engineering

Antonio J. Rosciglione, AIA, continued

and proposed materials evaluation. Monitored design consultant's progress and expenditures.

New York City Transit, Canal Street Station Complex Rehabilitation, New York: As resident engineer/architect, served as the owners' representative responsible for project management, quality assurance, cost and schedule control, and contract administration on this $31 million rehabilitation of the Canal Street Station Complex. Rehabilitiation involved architectural, structural, electrical, mechanical and communications. Responsibilities included management and supervision of field personnel, constructibility reviews and the development of site-specific solutions to construction/coordination issues; coordination with in-house departments including design group, MTA/Arts for Transit, station programs and R.T.O.; coordination with city agencies; preparation of estimates for both base contract work and proposed contract modifications; change order evaluation, preparation, negotiation and implementation; review, approval and processing of contractor's payment requisitions; and contractor evaluation. Mr. Rosciglione is knowledgeable in all aspects of Transit Authority contract specifications, procedures and requirements. (07/1994 to 04/1998/??/NA)

Pfizer Peapack Campus Garage Investigation, Peapack, New Jersey: As project manager, performed survey of two multistory garages and one below grade multilevel garage for condition survey assessment. Produced design documents and assisted in bid analysis and award of contract.

North Maple Inn, Pfizer, Inc., Basking Ridge, New Jersey: Project manager for envelope survey of corporate hospitality and learning center. Produced design documents, and assisted in bid analysis and award of contract.

American Express Tower Facade Restoration, Trammel Crow: Project manager for $3.5 million exterior rehabilitation. Coordinated bid documents, process, and award. Performed construction administration services. Coordinated between owner and general contractor. Approved payment requests and review schedule for conformance.

Pfizer World Headquarters, Pfizer, Inc.: Project manager for facade failure investigation and restoration. Analyzed and investigated localized curtain wall failure. Documented findings, created investigation program, and monitored contractor's progress. Coordinated and created design for reconstruction of failure area of curtain wall.

New York School Construction Authority, PS 36, Bronx, New York: Project manager for $3.6 million SCA exterior rehabilitation and window replacement for turn-of-the-century public school. Developed scope report, submitted SHPO report, and produced bid documents.

New York School Construction Authority, PS 108K, Brooklyn, New York: Construction manager for $2.4 million SCA exterior rehabilitation of 1800s National Historical Register School with a construction schedule of 12 months.

Dormitory Authority of the State of New York, State University of New York, Buffalo-Amherst, Ellicott Dormitories, New York: Project manager for $4.7 million DASNY exterior rehabilitation of 14 mid-rise dormitories and emergency repairs to 28 mid-rise dormitories with a construction schedule of three months.

Dormitory Authority of the State of New York, Baruch College and Hunter College, New York: Project architect for $3.5 million DASNY exterior facade rehabilitation. Analyzed scope and created construction documents. Performed construction administration duties, including site inspections, shop drawing review, and submittal review, and conducted progress meetings.

Leonard J. Schneidt, PE

Project Role: Project Manager

Education
BS, Civil Engineering, Cooper Union, NY, 1962

Registrations
PE: NY 1967, Registration No.: [redacted]

PE: NJ, Registration No.: [redacted] XPIRED

Professional Associations
American Society of Civil Engineers

Institute of Transportation Engineers

Society of American Military Engineers

New York Association of Consulting Engineers

Experience
Years with AECOM: 5
Years with other firms: 30

Employment History
2005-present: AECOM, Senior Civil Project Manager

1998-2005: Parsons, Vice President , Roads and Highways

1965-1998; Andrews & Clark, Inc (BAC Killam) Vice President

1963-1965; US Army- COE Waterway Experiment Station

1962-1963: Federal Aviation Agency- ALS/ILS

For the past 35 years, Mr. Schneidt has held leadership positions as project manager, chief engineer, office manager and principal for consulting firms in the New York Metropolitan Area. In these roles he has managed multi-disciplinary staffs and has participated on projects involving planning and environmental assessments, as well as preliminary and final design of highways, arterial streets, transit, and rail freight facilities.

Mr. Schneidt actively supports AECOM (as Urbitran) project managers with technical and management direction and oversight. During the course of his career, he has managed many high profile projects, including planning and design of the Long Island Expressway; planning and design for the South Bronx Oak Point Rail Link; and planning and reconstruction design of Eastern Parkway in Brooklyn, which was originally developed by Fredrick Law Olmstead

NYC Department of Transportation, School Safety Engineering Project, NY: Mr. Noupin was AECOM (as Urbitran) Engineering Manager for this work. The project involved creating abbreviated NYCDOT Preliminary Design Investigation Reports for 32 schools that were selected for capital improvements from 135 priority schools identified in a previous project phase. The project included investigating the existing roadway conditions at identified intersection, obtaining traffic patterns and surveying and mapping information, and designing preliminary roadway improvement to improve pedestrian safety. The preliminary roadway improvements included geometric improvements, provision of pedestrian ramps with detectable warning surfaces, and corner neck-downs (bump outs) to calm traffic and shorten crosswalk lengths. Additional roadway improvements included modifying the signing and striping and modifying or upgrading the bus pads. Coordination with City and private utilities and agencies was included in the work.

New York City Department of Transportation, Peter Minuit Plaza at the Staten Island Ferry Terminal in Lower Manhattan : Project Manager for the planning, design and construction support services for the $20 million plaza which includes a concrete pavement bus loop, a bikeway, curb replacement, plantings, park furniture, 100 K-12 bollards, drainage and lighting. The project required extensive coordination with NYCDOT, NYCDPR, MTACC as well as NYCDEP.

NYC Department of Transportation, Roosevelt Avenue Viaduct over Van Wyck Expy and Flushing River: Mr. Schneidt is Project Manager of a JV for the deck replacement and steel repairs of this 1500 foot viaduct which also support NYCT's # 7 line above. The span over the Van Wyck and River is a bascule span which is locked in place. The work included seismic evaluation, the study of nine alternatives, staging and M&PT, the preparation of a BRPR and preliminary plans.

NY State Department of Transportation, Major Deegan Expressway-Macombs Dam Bridge to E.138th Street: Mr. Schneidt is project principal for this project which involves the rehabilitation, widening, and realignment of the Major Deegan Expressway (MDE) between E. 138th Street and the Macombs Dam Bridge to improve physical conditions of the

Leonard J. Schneidt, PE, continued

deck and structural steel of the MDE Viaduct, and to improve poor geometric, operational and safety conditions on the mainline and at ramp junctures and adjacent intersection termini. Highlights include the development of a replacement E.138th Street Ramp on structure, staging concepts for MP&T to maintain six lanes of traffic at all times, traffic simulation , in-depth inspection, seismic and fatigue analyses and the preparation of Design Approval Documents including environmental assessments in accordance to NYSDOT's Design Phases I-IV process.

NYC Department of Design and Construction, Ely Avenue : Givan Avenue to 222nd Street: Mr. Schneidt is project principal for the $25 million reconstruction of approximately 15, 700 linear feet of streets in the Ely Avenue area of the Bronx, New York. The project involves complete street design, full depth pavement reconstruction, curb and sidewalk reconstruction, street lighting and traffic signal design, private utility coordination, the repair/ replacement of water mains and sewer lines, and the reconstruction of a concrete retaining wall.

NYC Department of Transportation, Engineering Services Agreement: Mr. Schneidt is overall project manager for this multi-task three year agreement. To date tasks have included: study and conceptual design of city wide step streets; construction inspection on the Rikers Island Bridge including design of concrete repairs; localized emergency repairs for the Belt Parkway; traffic and intersection studies in the Sherman Creek community; and traffic studies and concept design for Arthur Kill Road.

NYC Transit Indefinite Quantity Engineering Services: Mr. Schneidt was Project Manager for a five year, $7 million fee task order contract which included the inspection, including load ratings, of 27 bridges and a viaduct carrying the Staten Island Railway, the design of the Stillwell Ave Portal Building, design for ADA access to the elevated Junction Blvd Station, as well as several Security tasks involving all NYCT facilities including yards, tunnels and bridges.

NYS Department of Transportation, Design Phases I-IV of Pilgrim State Inter-Modal Facility, Islip, NY: As Project Principal, Mr. Schneidt was responsible for the development of a rail - truck inter-modal facility on the Pilgrim State Hospital grounds.

NYS Department of Transportation, Design Phases I-VI, Kew Gardens Interchange-Van Wyck Expressway, Queens, NY: Mr. Schneidt was Project Principal for the study of this major interchange as sub-consultant for highway/ traffic design.

MTA Triborough Bridge and Tunnel Authority, "On-Call" Engineering for Services for TBTA: Project Manager for a two year, $2 million fee contract which entailed task orders varying from toll booth replacement/ repairs, building structural inspections, miscellaneous structural work and the design of a $4 million lane use signal and VMS Contract for the BBT. He also provided construction support services on several contracts.

NYS Department of Transportation, I-87 Multi-Modal Corridor Study, NY: Project Principal for this comprehensive study for NYSDOT to identify and assess initiatives for improving transportation services along the 1-87 corridor from Westchester to Montreal. Included are studies of high speed rail, airports, waterfront services, highway travel and inter-modal facilities.

Arterial Needs Study-LI Rest Area, Design Phases I-IV, Suffolk County NY: Project Principal for the development of a $35M rest area including a travel and information center vicinity of LIE Exit 51.

NYS Department of Transportation, Regional Design Services Agreement, Region-11, NYSDOT: Mr. Schneidt was Project Manager for tasks including Constructibility Review of the FDR Drive Avenue C viaduct construction documents; an inventory of guide rails and drainage facilities on bridges; and Phases I-VI. This also included construction support services for a $9 million drainage improvement at 30 locations along the Belt Parkway. 1995 - 1998

Throgs Neck Bridge Interchange Study, Queens, NY: Mr. Schneidt was Project Manager for feasibility study of ramps to and from Cross Island Parkway west for TBTA.

James F. Van Sickels, PE

Project Role: Project Manager

Education
BS, Civil Engineering, Brooklyn Polytech Institute, 1989

Registrations
PE: NY 1995, Registration No.: [redacted]

Professional Associations
American Society of Civil Engineers (ASCE)

American Society of Highway Engineers (ASHE)

Chi Epsilon Honor Society

Experience
Years with AECOM: 21
Years with other firms: 0

Employment History
1989-present: AECOM, Project Manager and Senior Highway Engineer

1989AECOM - Earth Tech, New York, NY, Project Manager and Senior Highway Engineer

Mr. Van Sickels has experience in the management, planning, design, and inspection of civil works and highway projects, including site investigation and data collection, alternative design development and evaluation, construction cost estimating, design team leadership, construction engineering services, and the preparation of contract documents and proposal materials.

The Port Authority of New York and New Jersey, Grade Unpaved Areas along Runway 11-29, West of Taxiway "S," Newark International Airport, Newark, New Jersey: Project manager and project engineer responsible for management of the civil engineering services contract under which this work was conducted. Managed design work for the regrading of 14 acres of grass areas on either side of Runway 11-29 to restore positive drainage away from the runway and adjacent taxiways, as well as the adjustment of vertical obstruction heights of manholes, drainage inlets, and concrete sign foundations to within FAA requirements.

The Port Authority of New York and New Jersey, Widening of CTA Perimeter Service Road Ramp, JFK International Airport, Jamaica, New York: Engineer responsible for the design of the widening and resurfacing of an asphalt concrete pavement service road ramp. Work included site investigation and pavement condition surveys, soil boring plan development for the verification of subsurface structure locations, correction of substandard ramp alignment and superelevation and design of grading over a 400-foot length of the ramp, various drainage structure additions and modifications, and roadside protection and signage improvements. Critical concerns included construction phasing and maintenance of airport support and emergency vehicle movements through the site.

The Port Authority of New York and New Jersey, Grading and Drainage Improvements, LaGuardia Airport, Flushing, New York: Engineer responsible for the design of a full depth flexible pavement for an airside emergency vehicle staging area and a flexible pavement overlay for a vehicle service road at the central terminal building. Work included site investigations, pavement condition surveys, and design of grading for a positive draining asphalt concrete pavement. Critical concerns included construction phasing and maintenance of aircraft and service vehicle movements.

The Port Authority of New York and New Jersey, JFK Redevelopment Program, Central Terminal Area, JFK International Airport, Jamaica, New York: Prepared final utility removal drawings at the future central terminal complex and west parking garage sites. Conducted as-built records research and coordination of drawings with the joint venture design firm's new utility work.

The Port Authority of New York and New Jersey, Pavement and Utility Rehabilitation, Pier 9A, Red Hook Marine Terminal, Brooklyn, New York: Project manager and project engineer responsible for management of the civil engineering services contract under which this work was conducted. Managed design work for the renovation of 12 acres of container handling facility pavement at the upland

James F. Van Sickels, PE, continued

areas of Piers 9A and 9B. Managed pavement inspection, the utility casting inspection and upgrade for container operation loading requirements, and the grading design for a new heavy-duty asphalt overlay to increase pavement strength and correct drainage problems. Work at on this task also included the evaluation of 30-year-old underground sewer structures and the design of modifications to existing structures and the design of replacement structures to carry the current loading conditions imposed by the container handling operations.Project Name: Pat ilis num vulputpat lore voloreet utem quisim quam velent lorper se min hendit venit velit velisis augue tat. Duis nosto ea feum zzriurem acip ex exeriureet luptat at nisim vendit lore commodo dolobor alissequat praesequisi.

New York City Department of Transportation, Engineering Services Agreement, Task 00DR8, Shore (Belt) Parkway Bridge over Paerdegat Basin Upland Mitigation Planting Final Design, Brooklyn, New York: Project manager for field condition observations and preliminary and final design of final upland mitigation planting along a 4,900-foot-long segment of the six-lane Shore Parkway corridor. Managing coordination with NYCDOT as well as New York City Department of Parks and Recreation and landscape architects for the abutting project segments along the parkway corridor.

New York State Thruway Authority, MTA, and Metro-North, Tappan Zee Bridge/I-287 Corridor EA/EIS, Rockland and Westchester Counties, New York: Senior highway engineer responsible for development of conceptual ramp and local street configuration improvements at two existing interchanges (10 and 11) and one proposed new interchange (14X) in Rockland County. Also participated in review of full-length corridor 1:300 scale design plans of Alternative 3, 4A, 4B, and 4C and comment preparation with regard to detail of design information developed and presented as compared to detail of design information required for DEIS preparation. This project is being undertaken to perform and document a comprehensive environmental review process to address infrastructure and safety, operations and congestion issues and improvements in the 30-mile-long I-287 corridor between Suffern in Rockland County and Port Chester in Westchester County, including the Tappan Zee Bridge over the Hudson River. The alternatives include rehabilitation of the existing bridge, construction of a new bridge and/or tunnel, intermodal transportation for vehicles and mass transit (commuter rail, light rail, or guided busway), as well as transportation system management options.

New York State Department of Transportation, West Shore Expressway Access Improvement, Expanded Project Proposal, Preliminary Design and Phases V-VI, Richmond, New York: Project manager responsible for the technical coordination and fiscal performance of a multidisciplinary design team during the development delivery of expanded project proposal and preliminary design documents for the geometric, safety, access and operational improvements at six interchanges along the 8-mile-long West Shore Expressway corridor between the Korean War Veterans Memorial Parkway and the Staten Island Expressway.Most recently, project manager responsible for preparing the draft DAD of the preliminary design that identifies the need for further alternative development needed to evaluate wetland and property acquisition avoidance methodologies and their impact on project construction cost.

New York City Department of Transportation, Replacement of Shore (Belt) Parkway Bridge over Fresh Creek Basin, Brooklyn, New York: Project manager for the final steps of this 15-year long design project for replacement and widening of the existing 6-lane Shore (Belt) Parkway Bridge over Fresh Creek Basin in Carnarsie with a new 6-lane, 3-span, 310-foot-long bridge.

New York State Department of Transportation, I-287 Cross Westchester Expressway Viaducts, Westchester County, New York: Engineer responsible for the design of maintenance and protection of traffic signage plans for highway and ramp improvements and the reconstruction of the bridge structure over the Saw Mill River Parkway along a 2,200-foot length of I-287, affecting 10 ramps.

Bruce T. Williams, EIT

Project Role: Project Manager

Education
MS, Civil Engineering, Northwestern University, 1984

BS, Civil Engineering, University of Virginia, 1982

Registrations
EIT: VA

Professional Associations
Institute of Transportation Engineers (ITE), Associate member

Experience
Years with AECOM: 26
Years with other firms: 4

Employment History
1984-present: AECOM, Senior Transportation Manager

Federal Reserve Bank of

Chicago, Chicago, IL, Research Analyst

Mr. Williams is a senior consulting manager specializing in statewide/intercity and urban transportation planning, with an emphasis on travel forecasting, market analysis, model development and application, survey design and analysis, and financial analysis. He has conducted many statewide/intercity transportation planning studies for state departments of transportation (DOTs) and Amtrak; prepared ridership and revenue forecasts for proposed conventional rail, high-speed rail, and magnetic levitation technology services in several intercity corridors in North America; developed and applied integrated intercity travel demand models that addressed both modal shares and total travel volumes, including induced demand, for several intercity corridors and statewide study areas; and he has conducted urban transportation planning activities for a variety of proposed transit, highway, and parking improvements in many urban areas. Mr. Williams has developed urban travel demand models and forecasting procedures to support regional, corridor, and subarea planning activities and forecast travel volumes, vehicular traffic, transit ridership, and operating revenue for existing and proposed transportation systems and facilities

MTA New York City Transit (NYCT), LaGuardia Airport Subway Access (LASA) Study, New York: Project manager on this study of subway access to LaGuardia Airport from Manhattan. As part of a multidisciplined team, AECOM was tasked with developing new airport access mode choice models for trips to and from LaGuardia. This included designing new surveys of air travelers and employees to estimate both market size and potential diversion to new modes of access to LaGuardia Airport. These databases and modeling tools were used to evaluate a range of future airport access modes and alternatives.

National Railroad Passenger Corporation (Amtrak), Nationwide Ridership/Revenue Forecasting Support: Led AECOM's continuing nationwide intercity passenger rail ridership and ticket revenue forecasting support to Amtrak over the past decade and a half. In related tasks, AECOM has developed ridership and ticket revenue forecasting models for the Northeast Corridor (NEC), Amtrak's long-distance train services, and other intercity rail corridors nationwide. Amtrak has also contracted with AECOM to maintain and apply these models to assess the ridership and revenue implications of proposed service initiatives developed within Amtrak and by Amtrak's state partners. AECOM has prepared forecasts for Acela Express high-speed and regular train service in the Northeast corridor; proposed changes in long distance train services throughout the US; and service improvements in other short distance corridors, including state-supported corridor service in the Northeast (Maine, New York, Pennsylvania, and Vermont), Southeast (North Carolina), Midwest (Illinois, Michigan, Missouri, and Wisconsin), and the West Coast (California and Washington). These forecasts have been used by Amtrak and its state partners to plan and budget for intercity passenger rail services throughout the U.S.

Virginia Department of Rail and Public Transportation, Intercity Passenger Rail Market Studies, Virginia: Directed several studies of intercity

Bruce T. Williams, EIT, continued

and high speed rail service in Virginia. Responsible for preparing all ridership and revenue forecasts associated with a number of different alternatives for serving the Washington-Richmond-Hampton Roads and Washington-Charlottesville-Lynchburg corridors. These ridership/revenue forecasts were supported by new survey market research and a revised travel demand model system based on earlier model development for Virginia and North Carolina, updated to reflect current market and service conditions. AECOM was responsible for the design, oversight, and analysis of several rounds of new market research, including surveys of existing highway travel in key segments along I-95, I-64, US 29 and US 460. These studies have supported the development of a phased implementation plan for new and improved passenger rail services in Virginia beginning with the first state-funded intercity rail service, which is expected to begin operation in late 2009.

National Railroad Passenger Corporation (Amtrak), New Class of Service Research, Amtrak Consumer Research and Forecasting: Directed the market study addressing proposed new classes of service for Amtrak's longer-distance trains. The study objectives were to evaluate demand characteristics (i.e., price and market appeal) of these existing and new coach and sleeper classes if offered in different bundles on specific train routes. Also examined the impact of specific on-board amenities/services, including in particular the level of meal service provided (e.g., full dining versus informal cafe/lounge car service). Amtrak management used the study results to direct future planning, design, and implementation of potential new classes of service and amenity offering on long distance trains throughout the national network.

North Carolina DOT Rail Division, Southeast High Speed Rail (SEHSR) and Corridor Market Studies, North Carolina: Directed continuing ridership and revenue forecasting support to the North Carolina DOT's rail division in several intercity and high-speed rail corridor markets over the past decade. This has included preparing new forecasts for various SEHSR alternatives serving Charlotte, Raleigh, and Richmond/Washington, with through service from New York; proposed passenger rail service between Raleigh and Asheville, North Carolina; and proposed passenger rail service to Wilmington, North Carolina. These recent studies follow earlier assignments for North Carolina and neighboring states in the Southeast, focusing on intercity and new high-speed rail corridor markets. The NCDOT and its neighboring state partners have used the forecasts to support ongoing planning and environmental assessment of the SEHSR system.

Washington State Department of Transportation (WSDOT), Ridership and Revenue Forecasts in Support of the Cascades 20-Year Plan Update, Washington: AECOM project manager on a multi-disciplined team responsible for identifying and analyzing future corridor service levels and improvements as part of Washington's 20-year Cascades corridor plan update. Responsible for preparing ridership and revenue forecasts associated with different future Cascades service alternatives. The study team addressed specific service options for 2008 and 2023, in addition to sensitivity analyses for station locations in Vancouver, BC and future fare increases. The station location analysis examined the impact of moving the Vancouver, BC station over the Frasier River to the Scott Road Sky Train station in Surrey, BC.

Florida Department of Transportation (FDOT)/ Florida High Speed Rail Authority, Florida High Speed Rail Investment Grade Ridership Study, Tampa-Orlando, Florida: Project manager on this study that developed investment grade ridership and revenue forecasts for proposed high speed rail service in the Tampa-Orlando corridor. Provided one of two independent forecasts of future high speed rail ridership and ticket revenue in the corridor. These forecasts were based on models and data developed from new market research, including stated preference surveys conducted along the I-4 corridor. The forecast results were used in their request for proposals to design/build/operate/maintain the first phase of a high speed rail system within Florida.

Thomas Woo, PE

Project Role: Project Manager

Education

Bachelor of Architecture, University of Tennessee, 1975

Bachelor of Fine Arts, Berea College, 1971

Registration

RA: NJ

Professional Associations

American Institute of Architects, Member

Total Years of Experience:

with AECOM: 5
with Other Firms: 26

Employment History

2008-present: AECOM, National Technical Leader

Mr. Woo has over 30 years of experience on both national and international projects. He has worked on a variety of building types including health care facilities, research and development facilities, commercial office buildings, justice facilities, financial facilities, and laboratories. Mr. Woo has worked very closely and coordinated with various NYC agencies, including the Port Authority on the PANYNJ World Trade Center Transportation Hub (PATH).

The Port Authority Trans-Hudson World Trade Center Transportation Hub, New York, NY: Senior architectural team leader in association with renowned architect Santiago Calatrava, to design the new $3-billion permanent Port Authority Trans-Hudson (PATH) terminal at the World Trade Center (WTC) site in Lower Manhattan. The team is responsible for final design for the terminal building, pedestrian connections, security, sustainable design, vertical transportation and conveyances, and public wayfinding systems. All design is being performed with the best state-of-the-art practices for sustainable design.

Presbyterian Hospital, New York, NY: Project Manager for a new 6-story, 120,00 sf Ambulatory Care Facility and renovation of Inpatient Facility. Mr. Woo was responsible for construction documents, project specifications and bid documents.

Jacobi Medical Center, Bronx, New York: Project Management for construction documents, bid documents, project specifications, and construction document production for the fast track construction of a new 4-story Ambulatory Care Facility of 135,000 sf, and renovation of 90,000 sf of Inpatient facility.

Bellevue Hospital, Ambulatory Care Facilities,
New York, NY: Project Manager for a new 210,000 sf, 5-story Ambulatory Care Facility, renovation of 80,000 sf Inpatient Facility, 45,000 sf Critical Care Unit, and Infrastructure MEP facility. Responsible for construction documents, bid documents, project specifications, and construction document production for fast track construction and construction administration.

The Wiesner Building/Massachusetts Institute of Technology, Cambridge, MA: Designer for a 5-story gateway building between the west and the east campuses at MIT. Major components included exhibition galleries, a 200-seat auditorium, an experimental theater, media laboratories, classrooms, offices, siteworks and installations. Projects totaled 111,430 sf including curtain wall package documentation and construction administration.

Queens Family Court and City Agency Facilities, Jamaica, Queens: 5-story court facilities and 4-story city agency facilities including 25 court and hearing rooms, court support quarters, judges' chambers, information and service agency, juvenile justice and correction, and legal aid. Responsible for 300,000 sf and project manager on construction document phase, project specifications, and construction administration.

Westchester County Courthouse, Westchester, NY: Project specifications for construction documents on a 5-story new courthouse building. Project included construction of 207,000 sf and renovation of 293,000 sf of an existing

Thomas Woo, PE, continued

courthouse tower in downtown White Plains, New York.

Bank of China, Hong Kong: 72-story regional headquarters for the Bank of China with tenant offices and water gardens. Major components include banking hall, 15-story bank atrium, VIP apartment suites, dining, 17th floor and penthouse lounges, and underground parking for 370 cars.

Alfindo Office Tower Anggana Danamon - (Phase III), Lot 10, Jakarta, Indonesia: Project Manager and Project Specifications for a 300,000 sf, 30-story office tower on an eight story parking podium.

Sheraton Hotel and Luxury Apartments Anggana Danamon - (Phase II), Lot 2, Jakarta, Indonesia: Project Manager responsible for project specifications for a 57-story tower. The hotel contains a 10,000 sf column free ballroom, main lobby, banquet facilities, restaurant, retail and 3 levels of below grade parking. Total project area is 1,500,000 sf.

Shining Tower (Hyatt Hotel), Taichung, Taiwan: Project Manager responsible for project specifications on a 60-story, 975,000 sf mixed-use tower. Includes retail, meeting rooms, ballroom, a 250-room hotel, 25,000 sm of office space, an executive membership club and below grade parking for 480 cars.

Anggana Danamon (Phase I), Jakarta, Indonesia: Performed shop drawings review for twin 32-story office towers and 3-story Banking Pavilion, a mixed-use development with 3 levels of below grade service facilities, utility/mechanical space and parking for 1,200 cars.

Suntec City, Singapore: A mixed-use development including Convention and Exhibition Center, four 30-story and a 15-story office towers, connecting retail blocks, central fountain plaza with indoor/ outdoor restaurants and project site basement parking of 2,700 cars. Project Administration and Management from schematic design through construction document and fast-track project construction.

Tianjin Merchants International Maritime Commercial Center, Tianjin, China: Project Architect and Project Manager for a 26-story office building with retail podium and basement parking.

IMC Interior Design/Build in IMC Tower Penthouse, Kuala Lumpur, Malaysia: Project Manager and Construction Administration for the IMC Headquarters Office/ Executive Suite Interior Design and Construction in Penthouse.

IMC Tower, Kuala Lumpur, Malaysia: Project Manager and Construction Administration for a 29-story Headquarter Office Building with Basement Parking and Adjoining Parking Structure.

IBM Corporate Office Building, Purchase, NY: Corporate Office Building on a 47- acre (19 hectare) site with a parking structure for 850-cars. Mr. Woo was responsible for project details and coordination with the design team for a total size of 475,000 sf.

Shaoling Zhao, PE

Project Role: Project Manager

Education

MS, Civil Engineering, City University of New York, 1989

BS, Civil Engineering, City University of New York, 1987

BS, Civil Engineering, Wuhan Iron and Steel School, China, 1980

Registrations

PE: NY, 1991, Registration No.: [redacted]

Professional Associations

American Society of Civil Engineers (ASCE)

National Society of Professional Engineers (NSPE)

American Society of Highway Engineers (ASHE)

Society of American Military Engineers (SAME)

International Chinese Transportation Professional Association (ICTPA)

Chinese American Association for Engineering (CAAE)

Experience

Years with AECOM: 2
Years with other firms: 24

Employment History

2008-present: AECOM, National Technical Leader

Mr. Zhao is a seasoned technical leader who has extensive planning and design experience on major transportation projects. His expertise includes project management, QA/QC, scheme development/evaluation, geometric design, traffic control, drainage design, roadway signage, and specifications. He has been a lead transportation engineer on many New Jersey and New York State highway projects.

Port Authority of New York and New Jersey (PANYNJ), Downtown PATH Restoration Program Phase 1, World Trade Center and Exchange Place Stations, Manhattan, New York: Civil design manager responsible for QA/QC, design decision making, coordination, technical support, and design team management for the civil portion of the World Trade Center temporary station restoration and Exchange Place station expansion projects. The WTC project involves assessment of existing underground facilities, grading/paving of the WTC sites, study/design of drainage system, design of sanitary system and water supply system, and pump stations. Designed and prepared the construction documents for the east of Bathtub Site, Bathtub Site, various field change bulletins, as well as permit applications for sanitary sewer, storm sewer, and water main tapping, The Exchange Place project involved track clearance assessment of the proposed tunnels, design of the drainage system, and relocation of utilities.

Port Authority of New York and New Jersey (PANYNJ), Traffic Engineering On-Call Services, New Jersey: QA/QC engineer and technical advisor for the traffic standard details update assignment, which required researching and evaluating the latest technology/devices/applications that are available for traffic control and incorporating them into the traffic standard details.

Port Authority of New York and New Jersey (PANYNJ), Newark International Airport Call-In Assignments – Building 51 Relocation, New Jersey: QA/QC engineer responsible for plan review for the relocation of the historic Building 51. Plans reviewed covered the proposed site work, maintenance of traffic for the relocation path, grading and drainage, utilities, and temporary signage, as well as the temporary shoring/separation plans prepared by sub-consultants.

New Jersey Turnpike Authority (NJTA), NJ Turnpike Widening, Section 2, Interchange 7, New Jersey: Project engineer responsible for the final design (phases A to D) for section 2 of the New Jersey Turnpike widening program. The project involves new construction of two three-lane outer roadways from milepost 52.3 to milepost 56.5, including construction of two 1,500–foot long viaduct structures and 11 bridges; over 8,000 feet of retaining walls and 3,000 feet of noise walls; and reconstruction of Interchange 7, County Road 528, and Ward Avenue. The $180 million section 2 widening consists of three separate construction contracts. Responsibility includes overseeing all design tasks, providing technical guidance, performing technical review, managing work performed by sub-consultants, monitoring project schedules, and coordinating with NJTA, the program management consultant, the environmental consultant, and the constructibility consultant.

MTA Bridges and Tunnels, Feasibility

Shaoling Zhao, PE, continued

Study for Implementation of Two-Way and Open Road Tolling at the Verrazano Narrows Bridge, New York: Principal civil engineer responsible for developing design plans and evaluating alternate toll plaza and open road tolling concepts. Established design criteria; developed horizontal and vertical alignments for approach roadway systems and toll plazas; determined lane use requirements based on traffic forecasting and facility operations; evaluated design alternatives and estimated capital cost for each alternative; prepared a study report; and participated in the presentations. Also responsible for integrating design concepts into MicroSimulation models of tolling options.

Borough of Manhattan, MTA-NYCT Design of Flood Mitigation Measures at Three Locations, Manhattan, New York: Design supervisor responsible for the $150,000 analysis and design of flood mitigation measures at the 79th, 86th, and Chambers Street stations of the Broadway Line. Responsibilities included assessment of site conditions, determination of reasonable topographic survey limits for the hydraulic analysis, establishment of hydrological criteria for the hydraulic analysis, provision of technical guidance, performance of QA/QC on the analysis and report, establishment of methodology for pedestrian analysis, and evaluation of the pedestrian analysis and hydraulic analysis results to determine the feasible mitigation alternatives. Management responsibilities included establishment of design schedule, development of detailed task scopes, and assignment of staff to meet the accelerated project schedule.

MTA Bridges and Tunnels, Miscellaneous Design Services on an As-Needed Basis for Project GFM-419B, New York: Project manager for the $1.2 million three-year on-call design services project and directly involved in the project coordination/ management, technical design and construction document preparation for various assignments, including the electrical substation D platform bracing at the Throgs Neck Bridge, replacement of the grade slab at the toll plaza of Marine Parkway Bridge, replacement of the navigational lights and signs at the Marine Parkway Bridge, enclosure for electrical substation A at the Throgs Neck Bridge, construction support services for rehabilitation of towers lower strut and installation of curb plate at the Verrazano-Narrow Bridge, rehabilitation of bridge bearing plates/ fixed-movable joints/top piers at the Throgs Neck Bridge, TBTA deicer testing program, installation of electric/communication conduits at Queens Midtown Tunnel, all toll plaza painting, fender system repair at Marine Parkway Bridge, VE for Henry Hudson Bridge toll plaza replacement, VMS replacement at Queens Midtown Tunnel and Brooklyn Battery Tunnel, VE for orthotropic deck replacement at the Verrazano-Narrow Bridge, and clean and paint steel members at the Queens and Ward's Island Anchorages.

New York City Department of Transportation (NYCDOT), Belt Parkway Six Bridges Reconstruction, New York: Project manager for the $220 million reconstruction of the Belt Parkway Bridge over Mill Basin and overall project coordination/management of the reconstruction of six Belt Parkway bridges in the corridor. Responsibilities include coordination/management of the wetland and upland mitigation for six bridges; preparation of the environmental evaluation report and final design report; development/evaluation of various design concepts; solicitation of arborists; management of subconsultants for topo survey, trees survey, habitats assessments, wetland impacts assessments, permit applications, traffic modeling, soil investigation/ surcharging, New York State Department of Transportation (NYSDOT) Region 11 (Region 11 RDSA), Hillside Avenue and Jamaica Avenue Bridge Over Van Wyck Expressway, New York: Civil design manager responsible for the $900,000 preliminary and final design for the reconstruction of the Hillside Avenue and Jamaica Avenue Bridges, and the widening of 1 mile of Van Wyck Expressway. Services included QA/QC and technical supervision in the geometric design, design report preparation, MPT scheme development, traffic study, and the grading and drainage design. Also provided technical supports on issues that arose during construction. Construction cost was $38 million.

Resumes of Key Personnel
Tishman Construction Corporation

Frank Rodriguez

Project Role: Project Manager

Firm
Tishman Construction Corporation of New Jersey

Education
BS/Architecture, City College of New York

Professional Associations
OSHA 30-hour certified

Total Years of Experience
Tishman: 11
Other Firms: 26

As Project Manager, Mr. Rodriguez is responsible for budgeting, scheduling, logistics planning, client interfacing, and ensuring that all members of the team perform in their designated capacities. Mr. Rodriguez oversees contract administration inclusive of contractor requisitions, weekly project meetings, and overall schedule and cost control. He is responsible to review, estimate, and negotiate change orders and contractor claim submissions.

His duties also include administration of Tishman's on-site field staff, conducting inspections for quality control, adherence to contract documents, and implementing a project's site safety program. Mr. Rodriguez coordinates contractor shop drawing submittal review with the architect and engineers, and responds to contractors' requests for information (RFI). During pre-construction, he is responsible for bid document development and review. He has been in the industry for a total of 26 years, including 11 with Tishman.

Port Authority of New York and New Jersey, Continental Airlines at Newark Liberty International Airport: Mr. Rodriguez served as Project Manager for various Continental Airline Projects at Newark International Airport including:

- **Material Stores Building 101:** Mr. Rodriguez served as Project Manager for a new 70,000-square-foot warehouse facility. The project called for approximately 550-tons of structural steel and 400 steel piles. Work included installation of new mechanical, electrical and plumbing to serve new administrative offices and storage spaces and relocation of existing storm and sanitary lines.
- **Breakroom Renovation, Phase I:** As Project Manager, Mr. Rodriguez oversaw the interior renovation of 12 employee breakrooms throughout Terminal 'C' of Newark International Airport. Renovations included new pantry millwork, new flooring, painting, suspended ceilings and supervisor offices. New MEP systems included a fire alarm system, new and relocated sprinkler heads, new and relocated ductwork and plumbing and all new electrical circuitry.
- **777-200 Holdrooms:** Mr. Rodriguez served as Project Manager overseeing the interior retrofit of the holdrooms at 10 gates, addition of hydrant fuel pits at Gate 98, removal and relocation an existing jet bridge and addition a new jet bridge to Terminal 'C' at Newark International Airport.
- **United Airlines A-1 Bump-out:** As Project Manager, Mr. Rodriguez managed the addition of office and aircraft maintenance space to the existing A-1 Connector at Terminal 'A' of Newark International Airport. Work consisted of a new fit-out of two floors, totaling approximately 6,500 square feet. Additional work included precast, glazing façade, low voltage switchgear and new HVAC and electrical system.
- **Airlines Modification A-2 Bump-out:** Mr. Rodriguez was Project Manager for the addition of two new fit-outs for the new baggage handling system spaces to the existing A-2 Connector at Terminal 'A' of Newark International Airport. The project consisted of two new fit-outs: a new President's club

Frank Rodriguez, continued

and office spaces. Both fit-outs consisted of new precast, glazing façade, HVAC and electrical systems.

- **Hydrant Fueling Modification:** As Project Manager for the modification and addition to the Hydrant Fueling and Underground Utilities to Terminal 'A' of Newark International Airport, Mr. Rodriguez oversaw the addition of hydrant fueling pits and repair of pavement to nine existing gates. The project also included the relocation of electrical duct banks and water and sanitary lines.

Atlantic City Bus Terminal, Atlantic City, NJ: Mr. Rodriguez served as Project Manager for a new 25,000-square-foot bus facility. The project consisted of two phases. The first phase consisted of constructing a new passenger drop-off/pick-up canopy. Phase two consisted of the demolition of the existing canopy to allow for the construction of the new terminal. The project also included installation of new mechanical, electrical and plumbing to serve the new administrative offices and public spaces. Careful coordination was conducted with New Jersey Transit because all construction, deliveries and installation of underground utilities was performed while the existing terminal operated 24 hours a day.

Revel Hotel and Casino, Atlantic City, NJ: Tishman is managing the construction of a new beachfront resort with a 53-story, 2,000-room hotel tower. Two concrete mat foundations with approximately 35,000 cubic yards of concrete will be installed as a base for the new tower and a second future tower. Phase one of the project also includes a five-story structural steel podium that will house a 200,000-square-foot gaming area, event and conference space, entertainment areas, restaurants, a full service spa with indoor and outdoor pools, and a large three-story nightclub with additional lounges and a coffee shop. In January 2009, Revel Entertainment announced that it would continue work on the structure and exterior of the project, but delay the interior work due to current economic conditions. Mr. Rodriguez served as Project Manager.

North Beach Asbury Park, Asbury Park, NJ: Tishman provided Construction Management services to Paramount Homes for the construction of a new residential development totaling 920,000 square feet. The 157-unit residential development is located in North Asbury Park at the New Jersey Shore and is the only condominium community being sold with direct beach access. The development includes two eight-story buildings and one four-story luxury building. The development includes a level of parking underneath each building, accommodating 225 cars. Between the buildings and above the parking structure is a plaza with landscaping and hardscaping, a pool and sundeck. Other amenities include a state-of-the-art fitness center and on-site concierge service. As Project Manager, Mr. Rodriguez was responsible for all interior trades, managing the construction schedule, change orders, RFI's and coordinating with all MEP trades. He was also responsible for maintaining communication with the owner and designer team.

Gary Schmitt

Project Role: Project Manager

Firm
Tishman Construction Corporation of New Jersey

Education
AAS/Civil Engineering Technology, Union County College

Coursework/BSET, Civil and Construction Technology, New Jersey Institute of Technology

Professional Associations
OSHA 10-hour certified

Total Years of Experience
Tishman: 10
Other Firms: 29

Mr. Schmitt has more than 29 years of industry experience. As Project Manager, he is responsible for pre-construction and construction phase services including scheduling, budgeting, value engineering, bidding and contract award, cost control, claims analysis, control administration and close-out. He has served as a superintendent, estimator and project manager on a wide range of development and construction projects including multi-unit residential, commercial, industrial, institutional and transportation sector projects. He also managed his own construction and consulting business for several years.

World Trade Center VSC, New York, NY: The Vehicular Security Center (VSC) Projects is being developed to protect new public investments at the WTC Site by using the latest in proven technologies, including a vehicle scanning system, vehicle arrest devices, control gates, security booths, CCTV surveillance system and an Operations Office to provide off-street screening of vehicles entering the WTC Site in Lower Manhattan. The VSC will accommodate an estimated 5.5 million visitors annually to the WTC Memorial, which translates to 130 tour buses on an average weekday. The entrance/exist is located on the south side of Liberty Street between Route 9A and Washington Street. Tour buses transporting visitors to the Memorial Complex would drop the passengers off adjacent to it and then would proceed to the VSC entrance. Other vehicles will enter the facility through the same entrance. Mr. Schmitt is serving as a Project Manager on this project.

Continental Airlines Global Gateway Project, Newark Liberty International Airport, NJ: As Project Manager for the $40 million renovation and new construction for Terminal A Modifications, Phase II, which includes a 10,000-square-foot, two-story addition as will a new Presidents Club, four new passenger loading bridges, security checkpoint, additional restrooms, a canopy over the connector, hold room, back office space, 12 ticketing positions, and the build out of an additional seating area. Existing ticketing areas and offices were relocated. Mr. Schmitt was responsible for phasing/logistics, purchasing and daily administration of multiple general contractors and airline's vendors (asbestos, communications, furniture and specialty equipment).

Hangar #109, Jet Aviation/Port Authority of New York and New Jersey, Teterboro, NJ: Mr. Schmitt served as Project Manager/Estimator for a 40,000-square-foot hangar and 20,000 square feet of office space. The scope of work included site work, foundations, metal building erection, MEP and a high-density foam fire suppression system on a lump sum basis.

Hilton Grand Vacation Club, New York, NY: Tishman served as Construction Manager for a 27-story, 150,000-square-foot Hilton Grand Vacation Club (HGVC) located on 57th Street near Sixth Avenue, two blocks from Central Park. The HGVC is hotel and timeshare with 161 available units. Some units are studios and some have a living area and a bedroom. Mr. Schmitt served as a Project Manager on this project.

Gary Schmitt, continued

The Link, 310 West 52nd Street, New York, NY: Tishman managed the construction efforts for this 264,000-square-foot, 41-story, 210-unit new residential construction project, built on the west side of Manhattan. The apartment building features an extensive roof garden, a gymnasium and the apartments have unobstructed views of the Hudson River. The exterior facade features architectural pre-cast panels at the columns. Mr. Schmitt served as Project Manager.

Plaza Hotel Redevelopment, New York, NY: Tishman served as Construction Manager for the complete renovation and partial conversion of the historic Plaza Hotel. The completed 930,000-square-foot building consists of 150,000 square feet of commercial/retail space and 150 transient hotel rooms and 150 hotel condo rooms, with the balance of the building converted to residential condominiums. Tishman oversaw the enlargement of the building by infilling certain courtyard areas and a partial expansion of the building's upper floors. Mr. Schmitt served as Project Manager for temporary construction (hoists and scaffolding), interior infrastructure (concrete, misc. iron, fireproofing, metal and wood stairs) and vertical transportation trades (traction elevators, hydraulic elevators & lifts) for this large scale project involving condominium, hotel, restaurant and retail elements for El-Ad Properties.

New Jersey Schools Construction Corporation, Trenton NJ: Mr. Schmitt was a Pre-Development Project Officer on this project where Tishman served as an extension of the NJSCC's staff and provided development and Design/Construction management services. Mr. Schmitt also coordinated the day-to-day activities of Tishman's staff of 25 individuals within the SCC to ensure uniform procedures to help them meet the needs of our client in four regional offices throughout the state. His responsibilities included managing engineering and architectural consultants, providing property acquisition due-diligence services and evaluations of existing school buildings for reuse or expansion. Results of these studies were then routed thru the regulatory process and Mr. Schmitt continued coordination environmental issues during the design and construction process.

Jennifer Calabrese

Project Role: Estimator

Firm
Tishman Construction Corporation of New Jersey

Education
Legal Administrative Program, Katherine Gibbs School of Business

Total Years of Experience
Tishman: 3
Other Firms: 11

Ms. Calabrese has 11 years of experience in the construction industry, and 10 years of experience with construction estimating. She joined Tishman after serving as an Estimator for several quality construction firms. At her last firm, Ms. Calabrese served as a Senior Estimator in charge of the architectural group and reported directly to the Director of Estimating. Her duties involved coordination of all estimating tasks between all the architectural estimators, including quantity take-offs, subcontractor descoping and levelizing, clarifications, value engineering and ensuring that all checks and balances are implemented in the estimating process. She also led the architectural group in coordination with the mechanical and electrical trades and the civil and structural trades. She handled both design development estimates and lump sum bid estimates.

As an estimator for Tishman, Ms. Calabrese provides accurate quantity surveys of materials and labor for all CSI trade categories, from conceptual through working drawings, during pre-construction and construction phases of the project. Her responsibilities include performing quantity take-offs and pricing for various project types, from the concept design stage to the working document stage; obtaining all necessary information from the consultants to complete the estimate; verifying unit cost pricing for each trade through historical data or vendor contract; checking local markets for man-power and material availabilities; reviewing, quantifying and pricing cost savings/value engineering opportunities; analyzing and comparing bids with projected budget costs; and continually checking the work product for accuracy and completeness.

165 Halsey Street, Newark, NJ: Tishman is currently serving as Construction Manager for the renovation/fit-out of 16,000 square feet of new data center space on the ninth floor of an existing historic building. The installation of all new finishes as well as new cooling equipment, normal and emergency power, fuel oil tank and delivery systems and pre-action fire systems are all part of the work. Tishman is managing the pre-construction, building planning, scheduling, budgeting, and construction. Ms. Calabrese is currently providing estimating services.

Pennsylvania Convention Center Expansion, Philadelphia, PA: Tishman is serving as Construction Manager for the expansion and renovation of the existing Pennsylvania Convention Center. The 965,000-square-foot expansion includes a lobby, meeting rooms, exhibit halls, offices, ballroom, new kitchen and new mechanical room and associated utility and support spaces. Tishman will renovate the existing convention center by demolishing and reconstructing approximately 30,000 square feet of the back-of-house support spaces without any disruption to the day-to-day activities of the Center. Tishman will also provide services to receive and monitor the installation of all furniture, furnishings and equipment. Ms. Calabrese is currently serving as Estimator.

Philadelphia Schools Capital Improvements Program, Philadelphia, PA: Tishman is serving as Construction Manager for a major piece of the School District of Philadelphia's Capital Improvement Program, which aims to service and construct more than

Jennifer Calabrese, continued

315 academic facilities. Our initial assignment encompasses renovation and new construction projects at eight different locations throughout the city. These projects range in size from a 65,000-square-foot elementary school renovation project to the new construction of a 105,000-square-foot elementary and middle school at G Street & Hunting Park Avenue. Many projects involve staging the work around the operations of the school. Tishman is providing all pre-construction and construction services including estimating, scheduling, design review, bid development, procurement, project administration, cost control and quality control. Ms. Calabrese served as Estimator.

Hilton Grand Vacation Club, New York, NY: Tishman is currently serving as Construction Manager for a 27-story Hilton Grand Vacation Club (HGVC) located on 57th Street near Sixth Avenue, two blocks from Central Park. The HGVC will be a hotel and timeshare with 161 available units. Some units will be studios and some will have a living area and a bedroom. Amenities such as a lounge, spa and public terrace are planned as well. Ms. Calabrese served as Estimator.

Kennedy Meadowlands Golf Hotel, East Rutherford, NJ: Tishman assisted developers with a $270-million, 1.15-million-square-foot mixed-use project with two structures on a 10-acre site. The scope includes a 350-room hotel with amenities and 250 condo units all master planned by Robert AM Stern along with Jensen Fey of Seattle. Ms. Calabrese served as Estimator.

Stowe Mountain Resort, Stowe, VT: A 570,000-square-foot space consisting of a ski lodge, hotel, spa and underground garage. The total project amount was $200 million.

The Turning Stone Casino Resort, Verona, NY: A 20-story high-rise hotel, approximately 200,000 square feet with 300 guest rooms including VIP suites and restaurants. There is approximately 60,000 square feet of casino and gaming space in the Winter Garden area with all associated amenities. This project also includes a multi-purpose sports event center, approximately 140,000 square feet with a maximum seating capacity of 5,000. The contract amount was $110 million.

Owner Confidential, Atlantic City, NJ: Ms. Calabrese worked on the pre-construction phase of a $1.7-billion project consisting of two 40-story towers, gaming, spa, and garage.

Trump Marina Retail Entertainment Promenade, Atlantic City, NJ: Ms. Calabrese worked on the pre-construction phase of a three-floor addition above an existing facility; new atrium addition; interior fit-out with casino hall; restaurants, large multipurpose room; retail; elevator renovations; club renovations; health club and spa; and new parking deck with retail spaces. The contract amount was $100 million.

Rosana DaCruz

Project Role: Estimator

Firm
Tishman Construction Corporation of New Jersey

Education
BS,Civil Engineering, New Jersey Institute of Technology

Professional Associations
OSHA 30-hour certified

Total Years of Experience
Tishman: 1
Other Firms: 12

Ms. DaCruz recently joined Tishman and brings with her 12 years of experience in the construction industry. As Estimator/Assistant Project Manager for Tishman, Ms. DaCruz provides accurate quantity surveys of materials and labor for all CSI trade categories, from conceptual through working drawings, during pre-construction and construction phases of the project.

Her responsibilities include performing quantity take-offs and pricing for various project types, from the concept design stage to the working document stage; obtaining all necessary information from the consultants to complete the estimate; verifying unit cost pricing for each trade through historical data or vendor contract; checking local markets for man-power and material availabilities; reviewing, quantifying and pricing cost savings/value engineering opportunities; analyzing and comparing bids with projected budget costs; and continually checking the work product for accuracy and completeness.

Prior to joining Tishman, she served in a similar role for a major construction company in Bedminster, NJ and New York, NY.

Centra 1, Iselin, NJ: Tishman is currently serving as General Contractor for the complete renovation of an 112,500-gross-square-foot, four-story, Class-A office building. As part of the project scope, there is a planned 8,500-square-foot addition to the fourth floor, complete MEP systems replacement and a new exterior curtain wall. The build also has a LEED Gold certification set as its goal. Ms. DaCruz is currently providing estimating services.

165 Halsey Street, Newark, NJ: Tishman is currently serving as Construction Manager for the renovation/fit-out of 16,000 square feet of new data center space on the ninth floor of an existing historic building. The installation of all new finishes as well as new cooling equipment, normal and emergency power, fuel oil tank and delivery systems and pre-action fire systems are all part of the work. Tishman is managing the pre-construction, building planning, scheduling, budgeting, and construction. Ms. DaCruz is currently providing estimating services.

Major Construction Company, Bedminster, NJ and New York, NY: As Estimator/Assistant Project Manager, Ms. DaCruz prepared and submitted for review conceptual estimates, design development estimates, guaranteed maximum price estimates, and competitive lump sum estimates based upon a complete understanding of the contract documents. She attended pre-bid meetings, inspected project sites and evaluated site conditions. She also supervised and/or prepared detailed cost budgets on successfully bid projects; performed drawing take-offs on all construction related systems; downloaded information into historical database; acted as lead estimator in selected projects; and built relations with the subcontractor community and requesting bids, detailed scoping of their contracts and understanding their specialties and capabilities.

Rosana DaCruz, continued

Major Construction Company, Bedminster, NJ: As Assistant Project Manager/Project Manager, Ms. DaCruz assisted in field supervision of construction crews; administered contracts, submittals and RFIs; executed change orders and managed subcontractors; coordinated site meetings between architect, contractor, and engineer; assisted the project manager in preparing monthly reports for the owner and upper management; executed project close-outs and coordinated same with subcontractors; and managed and helped implement an affirmative action plan for the projects.

E.E. Cruz & Company, Inc., Holmdel, NJ: As Project Engineer, Ms. DaCruz assisted in field supervision of construction crews; aided foremen in interpreting construction plans; implemented field drawings with elevations; updated as-built plans; submitted daily Hot Work and Confined Space Entry permits; ordered construction materials and supplies; prepared monthly invoicing estimates; and performed quantity take-offs for bid preparation.

Metropolitan Transit Authority, New York, NY: Ms. DaCruz served as Assistant Project Engineer, responsible for CAD work related to contract drawings for the Structural Civil Engineering department.

Other project experience includes:

- NJ Transit Stations Rehabilitation, South Orange, NJ: $23 million
- NJDOT Route 1 and 9 Merge, Woodbridge, NJ: $16 million
- Rutgers Business School, Newark, NJ: Lump sum bid $38 million
- MSU Panzer Athletic Center, Montclair, NJ: Lump sum bid $6 million
- College of New Jersey, Trenton, NJ: Lump sum bid $25 million
- Rutgers Proteomics, Piscataway, NJ: Lump Sum Bid $26 million
- Hoboken YMCA, Hoboken, NJ: Lump sum bid $13 million
- Red Bull Park, Harrison, NJ: GMP $175 million
- Red Bull Training Facility, Hanover, NJ: GMP $32 million
- Ernst & Young Office Building, Secaucus, NJ: Lump sum bid $20 million
- Liberty Health MOB, Jersey City, NJ: GMP $14 million
- West Lake MOB, Neptune, NJ: GMP $20 million
- Newark Liberty International Airport Taxiway Z, Newark, NJ: $14 million
- Southern Access Road Bridge, Newark, NJ: $25 million
- Claremont Corporate Center, Summit, NJ: GMP $17 million
- Ernst & Young Office Fit-out, Secaucus, NJ: Lump sum bid $4.5 million
- Ernst & Young Office Fit-out, Iselin, NJ: Lump sum bid $6 million

Chris Seliga

Project Role:Scheduling

Firm
Tishman Construction Corporation of New Jersey

Education
BS, Construction Management, Wentworth Institute of Technology

Total Years of Experience
Tishman:12
Other Firms:21

Mr. Seliga is the Scheduling Director for Tishman's eastern region projects. He oversees a seven-person Scheduling department, which serves as a core resource for project and regional scheduling staff. The department is responsible for computer support, project scheduling, manpower charts, cash flow projections and all other scheduling materials required for a project. Additional responsibilities include the development and authoring of corporate scheduling policies and procedures.

The Scheduling department also provides graphic interpretations for site logistics and site safety plans during the course of a project. For any given project, a first estimate of the timing of the project is developed in bar chart format showing the major components and milestones of the project, from commencement of pre-construction through project completion. Summary and schedule reports, generated by Mr. Seliga's department, provide an overview of project status, both by milestone event and trade activity.

One World Trade Center, New York, NY: Tishman Construction is serving as Construction Manager for 1 World Trade Center, the 70-story, 2.6-million-square-foot tower that will reclaim the downtown skyline and enhance lower Manhattan's standing as a preeminent business district. Reaching a height of 1,776 feet, the building will incorporate the latest innovations in life safety systems, structural engineering and environmental responsibility. The project is striving to achieve LEED Gold certification through the use of renewable energy sources, low energy HVAC solutions, high performance façades, non-ozone-depleting chemicals, sustainable materials and rainwater collection and recycling systems. Mr. Seliga is providing scheduling services.

World Trade Center Transportation Hub, New York, NY: Tishman, in a Joint Venture with Turner Construction, has been contracted by the Port Authority of New York and New Jersey to complete the construction of the new World Trade Center PATH Terminal, designed by world-renowned architect Santiago Calatrava. The prior contractor was removed by the agency. The WTC HUB will include sub grade pedestrian connections that will connect the PATH system with the New York City Transit (NYCT) subway system, surrounding site development, and other transit facilities. These connections extend from the WTC site into the World Financial Center's Winter Garden on the west; the planned MTA/NYCT Fulton Street Transit Center on the east; 7 World Trade Center and TriBeCa to the north; and Wall Street and the Financial District on the south. Mr. Seliga is providing scheduling services.

World Trade Center VSC, New York, NY: The Vehicular Security Center (VSC) Projects is being developed to protect new public investments at the WTC Site by using the latest in proven technologies, including a vehicle scanning system, vehicle arrest devices, control gates, security booths, CCTV surveillance system and an Operations Office to provide off-street screening of vehicles entering the WTC Site in Lower Manhattan. The VSC will accommodate an estimated 5.5 million visitors annually to the WTC Memorial, which translates to 130 tour buses on an average weekday. The entrance/exist is located

Chris Seliga, continued

on the south side of Liberty Street between Route 9A and Washington Street. Tour buses transporting visitors to the Memorial Complex would drop the passengers off adjacent to it and then would proceed to the VSC entrance. Other vehicles will enter the facility through the same entrance. Mr. Seliga is providing scheduling services.

150 Greenwich Street – Tower 4, New York, NY: Tishman Construction is serving as Construction Manager at Risk for this 2.3-million-square-foot, 64-story tower that will be the fourth tallest skyscraper at the World Trade Center site at 975 feet from street level. With offices beginning at 139 feet above street level, the building will include 56 office floors, one-third of which will be occupied by the Port Authority of New York and New Jersey. Mr. Seliga is providing scheduling services.

Continental Airlines Global Gateway Project, Newark Liberty International Airport, Newark, NJ: Mr. Seliga served as Project Manager for this assignment. Over a span of four years, Tishman constructed projects for Continental consisting of renovations at Terminal A, a new baggage facility at Terminal C, and new maintenance facilities including an aircraft hangar at the North Area Expansion. All projects had to be constructed without affecting daily airport operations.

Marina Commercial Tower, Saadiyat Island, Abu Dhabi, UAE: Tishman Construction has been contracted by the Abu Dhabi Tourism Development & Investment Company to provide project management and cost management consultancy services for the planned Saadiyat Island Commercial Building, which is designed by Frank Gehry. Mr. Seliga is providing scheduling for this commercial building that will contain approximately 700,000 square feet of space over 40 stories and also contain a three-story subgrade garage.

Fiterman Hall, New York, NY: Tishman served as Construction Manager for the demolition of the 238,668-square-foot Fiterman Hall. On September 11th, 2001 Fiterman Hall sustained structural, electrical and mechanical damages from debris from the collapse of the WTC Towers. Demolition of Fiterman Hall has proven to be a longer process than originally planned due to findings and air quality at the site. To prepare Fiterman Hall for demolition and to protect the structure from contamination, Tishman restored electrical work, elevator systems and water to the building. Mr. Seliga served as the Lead Scheduler.

One Bryant Park, Bank of America, NY: Tishman Construction is serving as Construction Manager for One Bryant Park, a 55-story, 2.1-million-square-foot office tower in New York City, jointly developed by The Durst Organization and Bank of America. It is the first skyscraper in the world to achieve LEED Platinum Certification and includes a 4.6-mega-watt cogeneration plant, ice storage plant, extensive gray water retention and recycling system, green roof areas and water free urinals. Mr. Seliga served as Head Scheduler for development of the baseline schedule.

Coliseum Bus Depot Superstructure, Bronx, NY: Mr. Seliga served as Project Manager for construction of this state-of-the-art bus maintenance and storage facility for the New York City Metropolitan Transportation Authority. Tishman was selected after the original general contractor had fallen more than eight months behind schedule. Tishman's role as Construction Manager was to institute a corrective program to ensure that the previously installed substandard and damaged work was completed as originally specified. A concentrated scheduling effort was required to complete the remainder of the project, allowing for three months of commissioning, testing, and training.

Metro-North Restoration, Grand Central Terminal, New York, NY: Mr. Seliga served as Superintendent for this historic restoration of the exterior limestone. He monitored day-to-day construction of the stone masons and was responsible for site safety and traffic coordination. As Construction Consultant, Tishman was involved in the renovation of this historic beaux-arts terminal. Renovation involved the main waiting room, exterior cornice and the Vanderbilt Avenue entrance.

Resumes of Key Personnel
Ellana, Inc.

Rohit Ahuja

Project Role: Senior Scheduler

Firm
Ellana, Inc.

Education
MS, Industrial and Systems Engineering, Rutgers University, New Brunswick, NJ, 1986

BS, Mechanical Engineering, Panjab University, 1984

Total Years of Experience:
with Ellana: 4
with Other Firms: 16

Employment History
2006-Present, ELLANA, Inc., Senior Scheduler

1980-2006, Hanscomb/Faithful and Gould, Scheduler

Rohit Ahuja, Senior Scheduler, has more than 24 years of experience in CPM scheduling, construction management, project and program management, project controls, claims analysis, resource/cost management, strategic and organizational planning, business process reengineering, and performance improvement. Clients include both private and public organizations in the fields of construction, transportation, pharmaceutical, process, finance, real estate, and information systems. Responsibilities include developing, updating, analyzing, and reporting on detailed cost/resource loaded CPM schedules using Primavera.

PANYNJ, Newark Terminal B Renovations (Mid Level/Upper Level/Meeter-Greeter), Newark, NJ: Senior Scheduler. Responsible for providing CPM scheduling services for modifications to Terminal B at Newark Liberty International Airport. Services include Stage III - Final Design and Contract Documents and Stage IV – Post Award Services for the new mid and upper levels meter/greeter areas and related infrastructure. Work includes conversion of the domestic baggage claim hall to a domestic ticketing hall; improvements to the meter/greeter and Interline baggage re-check areas; relocation of existing ticket counters; and the addition of a new mezzanine level, among other tasks.

MTA, Construction of Rail Control Center , NY, NY: Scheduler. Responsible for developing the detailed schedule for the construction of the three-story building as well as the installation and testing of the equipment. In addition to the baseline schedule, schedule updates and reporting were also done on a monthly basis. The project included installation of high-tech computerized rail control equipment, electrical generators, security systems, computers, etc., on the third-floor of the building.

PANYNJ, World Trade Center, New York, NY: Scheduler. Responsible for developing the PANYNJ team CPM schedules and strategies to restore the entire WTC following the terrorist attack in February, 1993. Claims preparation for the insurance companies as a result of the blast were done using Primavera.

PANYNJ, Continental Airlines Terminal Expansion, Newark Liberty International Airport, NJ: Scheduler. Responsible for developing, managing, updating and analyzing detailed CPM schedules for this Continental Airlines terminal expansion project. Responsibilities included developing and maintaining detailed resource and cost-loaded CPM schedules. for the North Air Cargo Building at Newark Airport. Also responsible for performing time-impact analyses and making presentations to clients.

PANYNJ, North Cargo Building Facility – Newark Liberty International Airport, Newark, NJ: Scheduler. Responsible for developing, managing, updating and analyzing detailed CPM schedules for North Air Cargo Building. Responsibilities included developing and maintaining detailed resource and cost-loaded CPM schedules. Also responsible for performing time-impact analyses and making presentations to clients.

15 Central Park West, New York, NY: Senior Scheduler. Responsible

Rohit Ahuja, continued

for review of the construction schedule prepared by another firm for this high-rise residential tower at the Mayflower Hotel site. The development consists of 2 buildings built over 2 full block cellar levels. The ground floor contains retail space below the Broadway building, and the main lobby entrance for both towers is through the Central Park West building with a connector walkway to the Broadway building. Services entailed: review 2 detailed CPM schedules for each tower; review project specifications, drawings, and CPM scheduling specifications; analyze schedules to evaluate construction logic, critical path, resource allocation, and cost allocation; review build-out strategy for the 2 buildings and to ensure that the schedules conform to this strategy and logic; identify opportunities for shortening the construction schedule; implement any shortening sequence / opportunities in the schedule and evaluate impacts; provide recommendations.

'21' Club Hotel and Residences, New York, NY: Scheduler. Responsible for developing, managing, updating, and analyzing the detailed CPM schedules for this project that includes the following scope of work: demolish existing Donnell Branch of the NYPL; build a 170- to 200-room luxury hotel with spa and approximately 40 to 60 finished, but unfurnished, luxury condominiums contained within a separate 27- to 35-story tower above the hotel footprint. The hotel will house spa and wellness facilities and expanded banquet and dining space for the '21" Club, which backs onto the library; the 2 buildings will be connected. A rebuilt Donnell Library will be housed inside the hotel footprint and structure.

New Brooklyn Detention Center, Brooklyn, NY: Manager of Project Controls responsible for developing cost and resource-loaded project plans and CPM schedules for the Brooklyn Detention Center. Also updated project schedules; provided resource and cost analysis and critical path analysis; and wrote project update and status reports with mitigation strategies and recommendations. Ran project status meetings for the project team, project managers, and superintendents.

Princeton University Capital Program, Princeton, NJ: Scheduler responsible for supporting CPM scheduling services for the Princeton University Capital Redevelopment Program. This is a multimillion-dollar capital improvement program that includes construction of new buildings as well as renovation of existing buildings.

Long Branch Elementary School, Long Branch, NJ: Scheduler. Responsible for the initial CPM schedule preparation and schedule updates for the construction of a new school.

232 East 63rd Street, New York, NY: Senior Scheduler. Responsible for preparation of the initial CPM schedule for this $4 million project; review of proposed contractor's schedule and logistics; preparation of the final CPM schedule, and monitoring/updates during project duration

415 Greenwich Street, New York, NY: Scheduler, working with a surety company as a part of a team to construct a multimillion-dollar apartment building in the Tribeca section of Manhattan. Responsibilities included developing, updating, and maintaining detailed CPM schedules (using P3 and P6), as well as time-impact analyses.

Sands-Venetian Hotel and Casino, Las Vegas, NV: Scheduler. Responsible for developing, managing, and updating detailed CPM plan (design, preconstruction, procurement, construction) of the $1.4-billion Sands-Venetian Hotel and Casino in Las Vegas as well as performance of risk analysis. Prepared monthly project status reports for clients and executive management describing status, cost, and schedule performance. Recommended mitigation strategies.

Henry Chin

Project Role: Senior Project Cost Manager

Firm
Ellana, Inc.

Education
BS in Architecture, New York Institute of Technology, 1985

Professional Registrations
Licensed Architect in the State of New York, [redacted]

Total Years of Experience:
with Ellana: 7
with Other Firms: 18

Employment History
2003-Present, ELLANA, Inc., Senior Project Cost Manager

1985-2003, Morse Diesel, Senior Estimator

Henry Chin, Senior Project Cost Manager, has more than 25 years of experience in architectural design and construction cost estimating, specializing in conceptual project budgeting and detailed cost estimating at various stages of design and construction. Mr. Chin has a unique combination of estimating knowledge and sensitivity to architectural design and costs. Prior to joining ELLANA, he was the lead estimator with a major construction management firm for many high-profile New York City and national projects. His project experience includes construction cost estimating and master planning of high-rise office buildings, hospitals, museums, research facilities, airports, schools, residential developments, hotels, and alteration and renovation of existing buildings for adaptive reuse. Project Name: Pat ilis num vulputpat lore voloreet utem quisim quam velent lorper se min hendit venit velit velisis augue tat. Duis nosto ea feum zzriurem acip ex exeriureet luptat at nisim vendit lore commodo dolobor alissequat praesequisi.

PANYNJ, World Trade Center Tower One, New York, NY: Senior Project Cost Manager responsible for cost estimating and project cost control services for the 3-million square-foot Tower One at the World Trade Center site. Services include assisting the Project Program Manager with independent estimate preparation for trade bid packages; bid reviews; estimate preparation for bulletins, addenda, and change orders; and tracking and updating budget costs.

PANYNJ, Architectural, Engineering, and Interior Design Services for Offices at 4 World Trade Center, New York, NY: Senior Project Cost Manager responsible for cost estimating and scheduling services for the new corporate offices of the Port Authority of NY & NJ, consolidating about 1,700 Port Authority staff from multiple buildings in Manhattan and New Jersey in one central location at 150 Greenwich Street in Manhattan. The offices will cover approximately 15 to 20 contiguous floors, 1 podium floor (approximately 35,000 square feet located on the retail level to include a cafeteria, conference center, and an emergency command post), and 1/3 of the subgrade space in the new World Trade Center - Tower 4 Building. In compliance with current PANYNJ sustainability objectives all office buildings will comply with the World Trade Center Sustainable Guidelines, leading to a LEED gold rating.

PANYNJ, Redevelopment of jetBlue Terminals 5 & 6 at JFK International Airport, Queens, NY: Senior Project Cost Manager responsible for assisting the design team with the cost estimating of various design options for the proposed new terminal and roadways. These studies include design options for the terminal exterior walls, and roofs, drop-off area, and new canopy.

PANYNJ, TWA Building 60 Interior Adaptive Reuse / Exterior Improvements JFK International Airport, Queens, NY : Senior Project Cost Manager responsible for providing initial planning, design development, and construction-document cost estimating services to the design team throughout the interior/exterior renovations of this iconic TWA Terminal

Henry Chin, continued

(Building 60), designed by Eero Saarinen, at JFK.

PANYNJ, World Trade Center Vehicle Security Center and Tour Bus Parking Facility, New York, NY: Senior Project Cost Manager responsible for providing construction cost estimating services for the 4 story 295,700 sf vehicle and tour bus parking and screening facility.

PANYNJ, USAir Terminal at LaGuardia Airport, Queens, NY: Lead Estimator responsible for the cost estimates for this $200-million, 300,000-square-foot, two-story airline terminal with a total of 12 gates. The project also included managing the construction of the taxiway realignment and access roads.

PANYNJ, New International Arrivals Building/ Terminal Four at JFK International Airport, Queens, NY - Lead Estimator responsible for providing cost estimates from the schematic level of design to GMP for the new $400-million International Arrivals Building. The total terminal and concourses area is 1.4 million sf.

PANYNJ, Terminal One at JFK International Airport, Queens, NY: Lead Estimator for this two-level structure with a partial third level, totaling 660,000 sf. The new terminal was constructed on the site of the former Eastern Airlines Terminal, which was demolished as part of this project. Also included in the project are a retail and food gallery; new boarding lounges; and an airline club level on the airside of the security checkpoint. Construction value - $205 million.

National September 11 Memorial & Museum at the World Trade Center, New York, NY: Senior Project Cost Manager responsible for schematic and design development estimates for the WTC memorial and museum complex. Services include various cost studies of proposed design options, structural systems, and slurry wall supports.

PATH/Christopher Street-9th Street Station Entrances, Jersey City, NJ: Senior Project Cost Manager responsible for cost estimating services to the design team at the conceptual design stage for the preparation of an analysis report for both stations and conceptual design for a new station entrance at the 9th Street Station through the Fontana Center building. The logistically-challenging proposed new 9th Street Station entrance includes an underground mezzanine tunnel over the existing PATH lower-level platform tunnel. The scope involved extensive utility relocation; maintenance and protection of traffic; NYSOGS, Life Safety Services Term Contract, State of New York (S3014): Senior Project Cost Manager will be responsible for providing cost estimating services as-needed on this statewide life-safety term contract.

NYC School Construction Authority Cost Estimating Services On-Call Contract, New York, NY: Senior Project Cost Manager responsible for cost estimates at all stages of design for this on-call cost estimating prime contract, including new school construction projects, renovations, mechanical system upgrades, construction of new, 5-story, 97,000-square-foot intermediate school, feasibility study for 4-story, 49,000 sf. high school, and 4-story, 72,000-sf K-5th grade school.

New York City Housing Authority Term Contract, New York, NY: Senior Project Cost Manager responsible for providing cost estimating services for this requirements contract for various buildings throughout the New York City Area. Projects generally include exterior restoration of the existing facades, mechanical and plumbing upgrade, interior kitchens and finishes replacement, and site/ landscape/playground development

MTA, Design and Technical Services for Security Capital Program On "Task Order" Basis, New York, NY: Senior Project Cost Manager responsible for the provision of cost estimating services for engineering design and technical services for the MTA security improvement capital program. Services include risk and vulnerability assessments, development of a security program and security design guidelines, engineered solutions for threat mitigation, cost/benefit analyses of alternative mitigations, conceptual design, design development, final design, contract document preparation including drawings and specifications, preparation of project phasing plan and cost estimates, value engineering, and pre- and post-construction contract award services for a variety of security projects.

Walter Fitzer

Project Role: Chief MEP Estimator

Firm
Ellana, Inc.

Education
AAS, HVAC and Refrigeration, State University of Agricultural and Technical Institute at Farmingdale, NY

Professional Registrations
Certified Specialist in HVAC - American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.

Total Years of Experience:
with Ellana: 4
with Other Firms: 33

Employment History
2006 – Present, ELLANA, Inc., Chief MEP Estimator

2001-Present, Independent Consultant

1993-2001, Accu-cost Construction Consultants, Inc., Principal-Chief Mechanical Engineer

1973-1993, Federman Construction Consultants, Inc., Chief Mechanical and Electrical Engineer

Walter A. Fitzer, Chief MEP Estimator, has more than 30 years of experience in mechanical/electrical design, field supervision, and cost budgeting and estimating. He has a wide range of project experience and is responsible for MEP estimate preparation from the conceptual through construction document phases, as well as coordination of MEP scopes and costs with the architectural trades. He is fully involved in value engineering sessions and project cost analyses, estimates, presentations, cost reconciliations, and negotiations.

Mr. Fitzer's project experience encompasses educational facilities for such public institutions/agencies as the New York City School Construction Authority (NYCSCA), State University of NY (SUNY), and City University of NY (CUNY), as well as private schools; transportation projects for MTA NYCT, MTA Metro-North, MTA LIRR, NJ Transit, and Port Authority of NY & NJ (PANYNJ). He has also provided his expertise for healthcare, hospital, and R&D facilities; commercial construction and office buildings including NYC's World Financial Center and World Trade Center; courthouses and correctional facilities; as well as alterations and renovations for a variety of clients.

PANYNJ, Architectural, Engineering, and Interior Design Services for Offices at 4 World Trade Center, New York, NY: Chief MEP Estimator responsible for cost estimating and scheduling services for the new corporate offices of the Port Authority of NY & NJ, consolidating about 1,700 Port Authority staff from multiple buildings in Manhattan and New Jersey in one central location at 150 Greenwich Street in Manhattan. The offices will cover approximately 15 to 20 contiguous floors, 1 podium floor (approximately 35,000 square feet located on the retail level to include a cafeteria, conference center, and an emergency command post), and 1/3 of the subgrade space in the new World Trade Center - Tower 4 Building. In compliance with current PANYNJ sustainability objectives all office buildings will comply with the World Trade Center Sustainable Guidelines, leading to a LEED gold rating.

PANYNJ, Path Christopher Street and 9th Street Station Entrances, Jersey City, NJ: Chief MEP Estimator responsible for cost estimating services to the design team at the conceptual design stage for the preparation of an analysis report for both stations and conceptual design for a new station entrance at the 9th Street Station through the Fontana Center building. The logistically-challenging proposed new 9th Street Station entrance includes an underground mezzanine tunnel over the existing PATH lower-level platform tunnel. The scope involved extensive utility relocation; maintenance and protection of traffic; Fontana Building substructure and structural work; as well as vertical ingress/egress elements.

PANYNJ, World Trade Center Final Streets and Surfaces, New York, NY: Chief MEP Estimator responsible for providing design-development cost estimating services for the construction the Final Streetscape for the entire World Trade Center Site.

Walter Fitzer, continued

PANYNJ Architectural Call in Services for 2007-2010, New York, NY: Chief MEP Estimator responsible for providing cost estimating and scheduling services for the fit-out of Authority offices located at 115 Broadway and 116 Nassau Street in Manhattan.

MTA/Design and Technical Services for Security Capital Program On "Task Order" Basis, New York, NY: Chief MEP Estimator responsible for cost estimating services for engineering design and technical services for the MTA security improvement capital program. Services include risk and vulnerability assessments, development of a security program and security design guidelines, engineered solutions for threat mitigation, cost/benefit analyses of alternative mitigations, conceptual design, design development, final design, contract document preparation including drawings and specifications, preparation of project phasing plan and cost estimates, value engineering, and pre- and post-construction contract award services for a variety of security projects.

PANYNJ, World Trade Center Tower One, New York, NY: Chief MEP Estimator responsible for cost estimating and project cost control services for the 3-million square-foot Tower One at the World Trade Center site. Services include assisting the Project Program Manager with independent estimate preparation for trade bid packages; bid reviews; estimate preparation for bulletins, addenda, and change orders; and tracking and updating budget costs.

PANYNJ Architectural Call-In Services, NY/NJ: Chief MEP Estimator responsible for providing cost estimating services on an on-call basis for this "call-in" contract for PANYNJ. Tasks included the renovation of the Goethals Bridge Administration Building for which existing documents and assessment report were reviewed; assisted in determination of initial SF cost for alternatives; reviewed 50% and 100% drawings and prepared construction cost estimates, including list of unit price items with estimated quantities.

PANYNJ, World Trade Center Towers 1 and 2, New York, NY: Chief Mechanical/Electrical Estimator responsible for change-orders for MEP tenant work and lobby finishes.

PANYNJ, 7 World Trade Center, New York, NY: Chief Mechanical/Electrical Estimator responsible for provision of present-day replacement costs of HVAC, plumbing, and fire protection work for core and shell and tenant fit-out for insurance purposes.

PANYNJ, JFK International Airport, Queens, NY: Chief Mechanical/Electrical Estimator responsible for complete MEP requirements at new arrival gates at Terminals 1 and 4, including all conveyor systems.

NYSOGS, Life Safety Services Term Contract, State of New York (S3014): Chief MEP Estimator responsible for providing cost estimating services as-needed on this statewide life-safety term contract.

NYC Metropolitan Transportation Authority, Amtrak, and NJ Transit Rail Transit Experience, NY and NJ: Chief Mechanical/Electrical Estimator responsible for cost estimates for the following:

- MTA LIRR, Air Conditioning Upgrades
- MTA LIRR, Ventilation Studies, Track Level
- MTA NYCT, 72nd Street Subway Station - Site Utilities and Interior Upgrades
- MTA Metro-North, Grand Central Terminal Building Modifications - Interior and Track Work
- NJ Transit, Montclair Connection, New Light Rail
- Amtrak, James A. Farley Post Office Building/ Penn Station Redevelopment, NYC

Resumes of Key Personnel
G2 Project Management

Christine Glavasich

Project Role: Senior Cost Estimator

Firm
G2 Project Planning

Education
MBA, Baruch College, Zicklin School of Business, CUNY, New York, NY, 1997

BA, Monmouth University, West Long Branch, NJ, 1984

Professional Associations
New York Building Congress
Association of Real Estate Women

Experience
Years with G2: 12
Years with other firms: 14

Employment History
1998-present: G2 Project Planning, Inc., President/Sr. Estimator/Project Manager

1988-1998: Hanscomb Associates (Currently Faithful & Gould), New York, New York – Sr. Estimator/Project Manager

1984 – 1988 – NICO Construction Company, New York, New York – Estimator/ Assistant Project Manager

Christine Glavasich has over 20 years experience providing construction estimating and scheduling services to Architects, Engineers, Construction Managers and Owners. Her experience includes comprehensive construction cost management, scheduling, and value management. Her project cost consulting experience is comprehensive. Prior to founding G2, Ms. Glavasich was employed by Hanscomb Inc., where she provided construction cost management and consulting services to architects, engineers and owners on a wide variety of projects in the public and private sectors.

Ms. Glavasich also gained considerable experience in the construction contracting environment while engaged in detailed cost estimating, competitive bidding, purchasing, project accounting and administration, project controls, and project management for a large general contracting and construction management firm. She is versed in working on behalf of the Owner/ Architect and with major construction management and contracting firms --- providing estimate reconciliation between Owner/Architect and CM, as well as costing out alternative solutions when designs exceed budgetary limitations.

Her relevant project experience includes, but are not limited to:

Amtrak Arrivals Concourse Extension, Washington Union Terminal, Washington, D.C.

St. George Ferry Terminal/Intermodal Station Rehabilitation, Staten Island, New York

MTA/NYC Transit:

- Manhattan East Side Transit Alternatives Study (2nd Avenue Subway), Phase 2
- Rehabilitation of the Times Square Subway Station
- Rehabilitation of Three Elevated Stations on the Jerome Ave. Line, Bronx, NY
- Rehabilitation of the 14th Street and 7th Avenue Subway, New York, NY
- Columbus Circle Stations, Hearst Corporation ADA and Circulation Improvements
- 3-Year Indefinite Quantity Contract, Functional Planning and Engineering for Miscellaneous Engineering Projects

MTA/Metro-North Railroad

- Croton-Harmon & Peekskill Station Improvements
- Rye & Portchester Station Improvements
- Grand Central Terminal Water Conveyance Utility Improvements
- Grand Central Terminal Kit Room Expansion
- Site Assessment – New Office Space within Grand Central Terminal
- Upper Harlem Line Station Improvements

Christine Glavasich, continued

- New Parking at West of Hudson Stations
- New Parking at Irvington, Greystone and Sputen Duyvil
- Grand Central Terminal, Elevator Upgrade Project
- New Penn Station/James Farley Building Restoration/New Penn Station, New York, New York
- Grand Central Terminal Restoration Project, New York, New York – Change Order Review on behalf of Owner and Developer (MTA/Metro-North Railroad and Jones Lang LaSalle)

Brett Harlow

Project Role: Senior Cost Estimator

Firm
G2 Project Planning

Education
Fairleigh Dickinson University, Teaneck, NJ

Master of Science Mechanical Engineering 1990

Bachelor of Science in Applied Sciences and Engineering, United States Military Academy at West Point,1979

Registrations
New Jersey Master Plumbers License – Various States and Localities, including NY, NJ and VT
Professional Engineer Certificate State of Virginia (1984)
Engineer Officer Advanced Course

Experience
Years with G2: 12
Years with other firms: 11

Employment History
2000-present: G2 Project Planning, Inc., Sr. Estimator

1994 to 2000: Sordoni Skanska, Parsippany, NJ – Chief Mechanical Estimator

1993 to 1994: Bonland Industries, Wayne, NJ – HVAC Estimator

1984 to 1993: D'Onofrio Plumbing and Heating Corporation, Spring Valley New York – Project Manager

1979 – 1984 – U.S. Army, Achieved rank of Captain, U.S. Army Corps of Engineers

Brett Harlow has over 30 years experience as an estimator and project manager for Plumbing, Fire Protection and HVAC trades. In addition, he has owned a mechanical contracting firm and is a licensed plumber in the states of New York, New Jersey, Vermont and New Hampshire. He received his P.E. license in 1984 in the state of Virginia.

Brett graduated from the United States Military Academy at West Point with a B.S. degree in Applied Sciences and Engineering and went on to receive a M.S. in Mechanical Engineering from Fairleigh Dickenson University in New Jersey.

His representative project experience includes, but is not limited to:

- SUNY Old Westbury: New Academic Building, Student Center Renovation, and New Central Plant Alternatives Analysis
- Bronx Community College, Boiler Replacement Alternatives Analysis
- William Patterson University, Science Complex Renovation
- SUNY Albany, Mechanical Systems Upgrade
- SUNY Downstate University Hospital, Renovation & Addition Master Plan
- Rockefeller University, Welch Hall Renovation
- Museum of Natural History, New Graduate Center
- MTA/Metro-North Railroad, Grand Central Terminal Water Conveyance Utility Rehabilitation
- Alpharma R&D Suite Renovation, Piscataway, New Jersey
- Summit Medical Building, Summit, New Jersey
- Ramapo College Athletic Center, Mahwah, New Jersey
- Sanofi Aventis Bldg 400 Fitout, Bridgewater Crossings, New Jersey
- Garfield Middle School, Garfield, New Jersey
- Fairfield Municipal Bldg. Fairfield, NewJersey
- Kean University Nancy Thompson Library Institute for Human Rights, Union, New Jersey
- Rutgers College of Nursing, New Brunswick, New Jersey
- South Jersey Technology Park, Glassboro, New Jersey
- Teaneck Community Charter School
- Kean University Wilkins Theater, Union, New Jersey

Michael Mainella

Project Role: Senior Cost Estimator

Firm
G2 Project Planning

Education
BS, Electrical Engineering, State University of New York at Buffalo, 1987

Registrations
PE: NY, 1991, Registration No.: [redacted]

PE: Maine, Registration No: [redacted]

Professional Associations
IEEE
NFPE

Experience
Years with G2: 12
Years with other firms: 11

Employment History
1998-present: G2 Project Planning, Inc., Sr. Estimator

1995-1998: Action Electric, Queens, New York, Estimator/ Project Manager

1990-1995: Cashin Engineers, Plainview, Long Island, NY, Estimator/Project Manager

1987-1990: Levinson Electrical Contractors, Electrician

Mr. Mainella is a registered Professional Electrical Engineer who has gained substantial field, design and estimating experience during his career. His expertise has been obtained through working for both electrical contracting organizations as well as engineering consulting firms. His skills include conceptual and detailed cost estimating for electrical work, CPM scheduling, change order and progress payment negotiation, feasibility studies, value engineering, claims analysis, as well as design reviews and constructability analysis. In addition, his experience as an electrical engineer has included design of electrical systems and the preparation of contract documents for renovation and new construction of office and judicial complexes, service buildings, garages, and health care facilities.

His representative project experience includes, but is not limited to:

- MTA/NYC Transit, Grand Central Station – Power and Lighting Upgrade, New York, New York
- MTA/NYC Transit, Power and Lighting Upgrade Projects at Various Subway Stations, NY, New York
- MTA/Metro-North Railway, Grand Central Terminal Water Conveyance Utility Rehabilitation
- MTA/Long Island Rail Road, Maintenance Facility Project, New York, New York
- Century Condominium – Electrical System Upgrade, New York, New York
- JFK Airport, International Arrivals Building Electrical Rehabilitation Project, New York, New York
- Poletti Power Plant Rehabilitation, Queens, New York
- Con Edison Power Plant Rehabilitation, 14th Street, New York, New York
- Nassau County Sewage Pump Stations and Peekskill Raw Water Pumping Station, Peekskill, New York
- AT&T – Bedminster, NJ – Corporate Fit-out with extensive data requirements
- IBM – Rochester, New York – Data Center
- IBM – Armonk, New York – New Corporate Headquarters
- IBM – Poughkeepsie, New York - Computer Room Hardening

Resumes of Key Personnel
Industria

Christine Collins

Project Role: Assistant Project Manager

Firm
Industria

Education
Bergen Community College, A.A.S. Degree, Awarded May, 2007

Gibbs College, Montclair, NJ, Executive Assistant Certificate, Awarded 1998

Experience
Years with Confidential: 2
Years with other firms: 12

Employment History
2008- Present: Accounts Payable/Receivable

Ms. Collins is a problem solving Assistant Project Management who is a self-starter and works well with others, possessing extensive knowledge in construction management administration on a variety of successful public and private projects with a focus in bidding, insurance procurement, cost control, shop drawing/submittal management using Primavera Expedition, AIA software and QuickBooks software with a proven track record of working well with others in a high stress project environment.

Company Confidential, Lyndhurst, NJ: Accounts Payable/Receivable Specialist: Collecting cost data from the field and subcontractors to assemble and process payment applications and invoicing. Responsibilities include insurance procurement and management of records, accounts receivable and assisting in accounting input for company projects.

Candor Construction Group, Inc., Elmwood Park, NJ: Assistant Project Manager/Contract Administrator: Responsible for purchasing, bidding, procuring bonding and establishing on-site facilities for project management team working with senior Project Managers. Directly responsibilities included managing project RFI's, preparing and processing sub-contacts, invoicing, meeting minutes, support weekly "critical action items list" review, negotiated change orders/work orders, processed T & M tickets and punch list review and resolution as well as followed up on all project documentation and maintaining standard procedures.

RSM Construction Services, Inc., Lodi, NJ: Assistant Project Manager: Worked on a variety of interior fitout retail projects providing support to the company President/CEO working as liaison between company senior executives and client, subcontractor principals and associated venders. Responsibilities included change order control and processing, contract maintenance and enforcement, estimating/bidding, material purchase and logistical support for project site deliveries and equipment installation through project closeout and final payments.

$ 50 Million United Airlines Cargo Transfer Facility, Newark Airport Newark, NJ: Sr. Administrative Assistant: Directly responsible for contract administration and general office support to the Project Management Team on a fast-track cargo facility. Responsibilities included budget cost control and change order management, shop drawing submittals, assisted in the development and monitoring of the MBE/EEO plans, schedule submittals, meeting minutes and worked closely with Project Executive and client's representative, including the United maintenance and ground personnel during construction, through phased move-in to ensure an operational facility during turnover phase.

$830 Million Continental Global Gateway – EWR Terminal C Expansion: Assistant Project Manager: Responsible for assembling and managing numerous bid packages for processing on fourteen (14) projects at Newark Airport in coordination with subcontractors, project architects and engineers, in addition to processing shop drawings, technical submissions and payment applications, and

Christine Collins, continued

monitored MBE/WBE/EEO requirements with subcontractors. The project was performed on a fast-track basis working in a high pressure environment.

SGS Control Services, Rutherford, NJ: Branch Manager Assistant: Worked with Branch Manager in support of sales and marketing team, processed marketing reports and formulated monthly financial analysis preparing client cost reports.

Sheketa M. Daniels

Project Role: Senior Administrative Assistant

Firm
Industria

Education
Taylor Business Institute

Registrations/Certifications
Executive Secretarial Science

Experience
Years with Team Support Services, Inc: 7
Years with other firms: 21

Employment History
2001- present: – Sr. Administrative Assistant

Ms. Daniels has formal executive training and has extensive experience working for a variety of high level executives in a Fortune 500 company prior to working in the same capacity on large scale construction programs on Port Authority facilities. She possesses the knowledge coupled with her experience on how big dollar programs operate and has demonstrated her ability to team with departments within a large organization to efficiently bring critical items to focus for executive review and action on a daily basis. In addition, she is proficient in MS Word, Excel, Power Point, Publisher, Outlook and the Internet.

Various PANYNJ Projects: Newark Redevelopment Program, Newark Liberty International Airport, Newark, NJ

Senior Administrative Assistant/ Office Manager: Reported directly to the Port Authority Program Director, Assistant Program Director and Program Managers on the $3.7 Billion Newark Redevelopment Program. Responsible for administrative project management support, project correspondence and records, extensive calendar management, and coordination of content for report publishing, assisted with presentation preparations, preparation of security clearances for the issuance of airport security ID's and maintaining confidential files. Processed project invoices for submission to Port Authority Accounts Payable. High degree of accountability, accuracy and attention to detail essential in this position. Assisted with special projects and ad hoc requests as needed.

General Motors Corporation, Cadillac Motor Car Division, Parsippany, NJ

Senior Administrative Assistant, Product Distribution: Responsible for the administration of the company vehicle inventory (approximately 1,100 vehicles annually). Responsible for assigning/rotating/disposing of company vehicles for GM executives, GM Board of Directors, GM Field Employees and Celebrity promotional placements. In addition, responsible for coordinating the rotation, plating and maintenance of Cadillac Courtesy Vehicles assigned to Newark Liberty International Airport. Assisted Marketing Director with all Marketing, Special Events and Promotional activities (New York Auto Show, U.S. Open, PGA, NFL Golf, Fashion Week, and other promotional events in the Northeast Region). Responsible for administering the Employee Purchase Program in the Northeast Region. Prepared correspondence, reports and presentations using MS Office software. Responsible for coordinating Regional Distribution activity with the General Motors field staff.

Cadillac Motor Car Division, General Motors Corporation, Parsippany, NJ

Mediation Specialist: Responsibilities included the coordination and scheduling of all mediation/arbitration activity with area Better Business Bureaus, American Arbitration Associations, GM attorneys, GM District Sales and District Service Managers for the Northeast Region. This required direct telephone and written contact with retail customers for problem

Sheketa M. Daniels, continued

resolution. I was the liaison for General Motors Dealers, Central Office staff, GM attorneys and outside mediation/arbitration associations to resolve complaints and/or complete arbitration/mediation awards within required time limits in accordance with company policy. Responsible for maintaining the Regional Calendar of Hearings for the Northeast Regional Field Staff. Responsible for generating checks for monetary settlements/awards, in addition to coordinating repair awards with GM dealerships. My duties included all related correspondence and records maintenance.

Cadillac Motor Car Division, General Motors Corporation, Parsippany, NJ

Secretary to Customer Relations Manager – June 1984 – January 1986

Responsible for maintaining the open complaint database and interacting with the field staff of District Service Managers and District Sales Managers to achieve customer satisfaction and timely case closings. Responsibilities included publishing Regional itineraries for all office and field personnel. Routinely assisted management with quarterly status meetings by making travel arrangements, selecting the menu, arranging ground transportation, assisting in preparing the presentations and handouts, and auditing and paying the bills. Maintained detailed work schedules, vacation/attendance records and confidential files. Responsible for all word processing and records maintenance for the department. Assisted with special projects and assignments as needed.

Joseph A. Madonia

Project Role: Senior Project Manager

Firm
Industria

Education
BS, Civil Engineering - Marquette University, 1982

Professional Associations
American Society of Civil Engineers (ASCE)

Project Management Institute (PMI)

General Contractor Association (GCA)

Experience
Years with Industria: 3
Years with other firms: 23

Employment History
2007- present: Industria, Inc. – Sr. Project Manager/Chief Estimator

Mr. Madonia is a Civil Engineer with extensive experience in Project and Construction Management of new and rehabilitated public and private buildings as well as transportation facilities and bridges. His extensive experience as a Project Manager and Chief Estimator in both the public and private sectors, as well as his work experience overseas, has led to the successful completion of a wide variety of major highrise/lowrise corporate office and condominium buildings, public buildings (i.e., schools, park facilities, parking structures, libraries), and industrial and transportation projects.

Berger Design Studios, Mondial River West; 910 West Huron Street, Chicago, Illinois: Sr. Project Manager. Responsible for preparing the schematic and detailed cost estimates and baseline schedule for the hard bid $40 Million, 15 story, 142 unit condominium complex with parking garage, including 2000 SF of retail space. Responsibilities included preconstruction services through construction/closeout, including contract buyout, sub-contract preparation and execution, cost control/payment invoicing, schedule development and monthly update submissions, change order/claims negotiation and resolution through successful project turnover.

Richard Goldman & Associates, Union Point Condominiums, Milwaukee, Wisconsin: Division Manager/Sr. Project Manager. Responsible for a $9.5 Million multi-use, 71 unit condominium complex that included 2 levels of enclosed parking and five (5) levels of condominium units and 15,000 SF of ground floor retail space. Responsible for project development through construction including subcontractor buyout and coordination, management of overall budget and schedule sequence for early phased turnover of residential units in coordination with Owner's leasing plan.

USA Navy, Great Lakes Naval Station Farragut Avenue Bridge, Great Lakes, Illinois: Sr. Project Manager on the $3.2 Million 300 ft steel bridge project that included the demolition of the existing bridge. Directly responsible working with the design team and Navy personnel in the planning and execution of the project including all site work, utilities, signage, environmental protection methods through the construction of the bridge foundations (cofferdams), steel superstructure and roadway work.

Multiple Selective Projects

As Vice President/Operations Manager for Buckeye Construction direct responsibilities included hiring staff to manage the projects listed below from bidding and proposing on work (sales), to setting up staff to manage simultaneous ongoing projects for various owners. Key responsibility for company division payroll, insurances, construction equipment leasing, and company project staff in the division, in addition to overseeing the below listed projects.

- **$2.2 Million, 20,000 SF, 2 story facility:** Boys & Girls Club, Chicago, Ill.
- **$2 Million Pace/UPS Bus Terminal w/200 ft canopy:** Pace Trans/UPS, Chicago, Ill.
- **$5 Million, 30,000 SF University of Chicago facility renovation:** UIC, Chicago, Ill.
- **$250,000, 1,500 SF University of**

Joseph A. Madonia, continued

Chicago In Patient Dialysis Unit: UIC, Chicago, Ill.

- **$4 Million, 50,000 SF University of Chicago School of Art Bld:** UIC, Chicago, Ill.
- **$700,000, 5,000 SF View Optical Center (high end build out):** UIC, Chicago, Ill.
- **$3 Million, Morton College Exterior Renovation:** Morton College, Chicago, Ill.
- **$500,000, 10,000 SF Mossner Blue Printing facility:** Mossner, Chicago, Ill.
- **$1 Million, 5,000 SF Addition/45-day fast-track renovation:** Sunnydale Elementary School
- **$700,000, 15,000 SF fast track renovation:** Bartlett Elementary School

Multiple Selective Projects

Vice President of the Construction Division for G. F Structures, Chicago, Ill., with direct responsibilities including managing staff on a variety of projects listed below from bidding/proposing on work (sales), to developing and oversight including budget and estimates, bidding and purchasing, scheduling, processing of payment applications, change order management, claims control and mitigation through the project closeout process.

- $2 Million, 40,000 SF Office Complex Expansion: City of Chicago, Chicago, Ill.
- $2.8 Million, 20,000 SF Chicago Public School Yates Annex: Chicago, Ill.
- $3 Million, 3 Chicago Public School Science Lab Renovations; Chicago, Ill.
- $3.8 Million, 11 Chicago Campus Parks: Public Building Commission, Chicago, Ill.
- $2 Million, Seward Park Reconstruction: Chicago Park District, Chicago, Ill.

Multiple Selective Projects

As a Sr. Project Manager for Schal Bovis managed a staff of (6) Project Managers and five (5) superintendents for the oversight and direct Management of new construction projects using constructability reviews, cost control, scheduling, phasing and logistical planning and other appropriate tools to balance cost, schedule and quality. Primary responsibilities include preparing detailed project budgets, at all levels of documentation, with Value Engineering services to ensure owner/ architect budgets are maintained throughout the preconstruction process, bidding of new projects, document control, cost control, safety, scheduling and project closeout.

- $1 Billion new construction capitol improvement program for Chicago Public Schools
- $350 Million Sears Merchandise Group Headquarters
- $150 Million Harold Washington Library
- Perform Assessments for code and licensing of 100 Head Start and 50 Homeless
- Shelters for City of Chicago Department of Human Services.
- Construction Management for 6 new City of Chicago Public Libraries
- Construction Management of Head Start and homeless shelter renovations for City of Chicago Department of Human Services.

Multiple Selective Projects

Played a key role as Project Manager with Pepper Construction with direct responsibilities for conceptual estimating, pre-construction cost models and budgets, design development estimating, value engineering and lump sum bidding, subcontractor awards, project scheduling, document control, cost control risk management, safety and project close-out.

- $25 Million 300,000 sf 5 story Embassy Suites Hotel Parsippany NJ.
- $95 Million fast track renovation of Chicago Hilton and Towers
- $2 Million, 2M gallon per/day chilled water treatment plant Saudi Arabia
- $1 Million women's clinic Saudi Arabia
- $2 Million 40,000 sf renovation of Skill Corporate Headquarters

Sharon Quinn

Project Role: Project Manager

Firm
Industria

Education
BS, Business Administration – Bloomfield College, NJ

Professional Associations
Project Management Institute (PMI)

Construction Management Association of America (CMAA)

Experience
Years with Bovis Lend Lease: 7
Years with other firms: 23

Employment History
2003- present: Bovis Lend Lease – Sr. Project Manager/Chief Estimator

Ms. Quinn possesses 28 plus years of Project Management experience working in a variety of significant roles on large scale projects that includes Project Manager, Risk Manager and Project Closeout Manager with a focus primarily in Risk Management on high risk projects, during the past several years. She played a key role in the initial set up and essentially the final closeout of high profile construction development programs, collaborating closely with the Project Team including clients/owners, subcontractors, venders, sureties, attorneys, insurance representatives, including workman's compensation and disability representatives, union representatives, medical professionals, successfully establishing a strong reputation in Project/Risk Management on highly complex and large dollar/volume construction programs.

PANYNJ World Trade Center Transportation Hub, New York, NY ($1.5 B): Risk and Closeout Project Manager: Instrumental In developing various Joint Venture project Management Standard Practices and Procedures that included contracting, risk, insurance, bonding, records and information management and project turnover/closeout processes in collaboration with PANYNJ policies and procedures on the new WTC Transportation Hub. Directly responsible for the daily operation and management of the Project Risk and Closeout Departments.

GSA-US Federal Courthouse, Brooklyn Cadman Plaza Project, NY ($750 M) & GSA-US Post Office Facility-, Brooklyn Cadman Plaza, NY ($625 M): Developed, implemented and managed the Standard operating Procedures for contracting, records and information management, risk, bonding, insurance and closeout in coordination with GSA (FAR) Federal Requirements including review of all project SOP's to identify and mitigate potential contract and operational risk, addressed insurance requirements in conjunction with project scope, certificates of insurance, managed onsite OCIP, CCIP, wrap-ups and offsite insurance programs, claimant case management, coordination with Safety Team requirements and compliance guidelines. Project management responsibilities included pre-construction, contract administration, budget, schedule and cost control support, subcontract payments, change order processing, review/monitor submittals, shop drawings, RFI's, change order proposals and facilitate subcontractor closeout working with a project staff.

Continental Global Gateway Program ($950 M), Newark Liberty International Airport, Newark, NJ: Sr. Project Manager: Established Project Procedures manual for Risk Management, insurance, bonding, project turnover and closeout and records and information management. Directly responsible in developing procedures and guidelines that complied with airport operational concerns and FAA, while working with PANYNJ and Continental Airlines policies and procedures.

Asia Society Project,Columbia University Project, Lenfest Hall Project, NYU Palladium, NY: Sr. Project Manager: Developed Corporate Standard Operating Procedures for a variety projects for Program

Sharon Quinn, continued

Management, Risk Management, Closeout performing monthly audits on all contracts working with program management team to confirm and enforce global compliance of Corporate Standard Programs.

Plati Sanitation Waste Management – South Hackensack, NJ: Chief Executive Officer: Developed a sustainable waste management corporation responsible for implementing a strategic business plan meeting the inherent challenges of the waste industry. Responsible for every facet of the business that included marketing, overall business operations and processing all company financials working with CFO. Directed and developed a Materials Separation Plant that enhanced internal and external business operations of the company that was recognized as a major milestone that increased profitability of the company and reputation within the industry as a full service waste company.

PANYNJ Newark International Airport, Newark, NJ: Facility Property Representative. Responsible for the coordination and management of airport wide Tenant Alteration Applications (TAA's) working with individual tenants performing condition surveys and of facility leased premises throughout the terminals. Responsibilities included negotiation of spaces with new and existing tenants, PA Board item preparation and turnover of new spaces with PA Construction Division.

Kathleen Wittrock

Project Role: Senior Administrative Assistant

Firm
Industria

Education
Union County College

Experience
Years with St. John: 5
Years with other firms: 12

Employment History
2005 – Present - John the Apostle School – Administrative Assistant

Ms. Wittrock is a Sr. Administrative Assistant with strong organizational skills and possesses a proven ability to effectively manage multi-task responsibilities complimented by strong interpersonal and communication skills. With significant experience on past program and construction management projects, she is knowledgeable of Port Authority procedures and protocol, and is proficient on the computer with a focus on Microsoft Word, Excel, Power Point, Access and File Maker.

PANYNJ, Redevelopment Program & Capital Projects, Newark Liberty International Airport, Newark, NJ: Administrative Assistant to Aviation Department: Responsible for prioritizing and organizing daily work load, coding and processing a high volume of correspondence, updating weekly and monthly reports, maintaining files, processing confidential information, calendar management, processing monthly payment applications on a variety of airport contracts, coordinating efforts and responsibilities with other airport engineering field offices.

St. John the Apostle School: Secretary to the Principal. Performed various secretarial duties for the Principal and teachers, including student and facility daily attendance, monthly calendar management for school activities, prepared archdiocese annual reports, maintain annual and new student registration, worked closely with Parent Facility Guild, organized and prepared school supply orders in addition to other clerical duties.

Federal Aviation Administration, Federal Aviation Association Credit Union, Clark, NJ: Board Liaison/ Secretary. Performed various secretarial duties for the Chief Officer, Board of Directors and Staff. Responsibilities included organization of board meetings, schedules and correspondence coordinating among different branches.

Hosokwa Micron Powder Systems, Summit, NJ: Administrative Assistant. Position required comprehensive typing assignments in a demanding work environment. The work also included working as an Assistant to the Manager of Domestic Sales responsible for coordinating project activities; maintenance of interdepartmental communications; organization of management meetings and preparation of presentation materials, travel arrangements, etc.

United States Gypsum Company, Clark, NJ: Human Resource Secretary/ Accounts Payable Clerk/Secretary-Receptionis. Held three (3) positions during a three (3) year period, in addition to general secretarial duties including scheduling of interviews, processing employee payroll, coordinating employee health benefits, processing of shipping and receiving invoices, and extensive organizational activities.

Resumes of Key Personnel
NIA Technologies Corporation

Linda Fox

Project Role: APM/Expedition Specialist

Firm
NIA technologies Corporation

Education
Construction Project Manager Certification Program - New York University in 2000

Construction Methods and Materials for Building Interiors Course in 2006

OSHA 10 Hour Construction Course in 2007

Total Years of Experience:
years with NIA: 3
years with Other Firms: 7

Employment History
2007-present, NIA, Project Supervisor

2003 – May 2004, Outsource Consultants, New York, New York

July 2002 - Feb.-2003, Code, LLC- New York, New York

Ms. Fox has more than 10 years of experience in project APM and expedition. She possesses excellent communication and organizational skills and always pays attention to detail and follow through to meet deadlines. Ms. Fox is a problem solver and always able to develop creative solutions. She has strong Primavera Products Experience

Her relevant experience includes:

Project Supervisor December 2007 – February 2009:

Fully accountable for the timely completion of final punch lists by all sub contractors

- Conducted walk throughs with property owners, The O'Connor Group, for sign offs of approved units
- Co-ordinate with the property owners the completion dates for units, for client closings
- Responsible for meeting with all sub contractor foreman to discuss progress on completing units
- Fully responsible for all aspect of a 10-unit upscale condo building in Brooklyn, NY
- Directing and overseeing all work performed by all sub contractors
- Responsible for providing to building owner all financial information for bank loans
- Point person for all inspectors through all aspects of building inspection process
- Manage and co ordinate all suppliers delivery timing for ordered materials
- Interior Supervisor & Project Coordinator
- Managed all aspects of two 16- unit condo buildings and one 53-unit condo building, taking it from the interior construction through all inspections including the Certificate of Occupancy.
- Assisted in supervising interior work in one 82-unit condo building and one 52-unit building, also to its completion.
- Conducted clients walk throughs and completed units to their satisfaction.
- Responsible for punch listing all areas of the building and ensuring completion of all work from all sub contractors.
- Excels in management of in house diverse labor force with proven positive results.

Outsource Consultants, New York, New York, Nov. 2003 – May 2004

Project Expediter

Responsible for attending appointments with Department of Buildings Examiners to get required initial project approval.

Perform all daily Department of Buildings related tasks.

Conduct project walk thru's for client (architect / engineer) for final sign off.

Attend court appointments at Environmental Control Board to negotiate violations against property dismissed.

Co-ordinate all project aspects to obtain a Certificate of Occupancy

Code, LLC- New York, New York,July 2002 - Feb.-2003

Linda Fox, continued

Project Manager, Certificate of Occupancy

- Co-ordinate all project aspects to obtain a Certificate of Occupancy.
- Preparation of Certificate of Occupancy applications and all related forms required by the Department of Buildings.
- General CO research including violation dismissal and filing of Post Approval Amendments required for sign off
- Conduct project walk thru's and building inspections with clients and Department of Buildings personnel.
- Follow up with the construction, plumbing and elevator divisions at the Department of Buildings, and contact with the Bureau of Electrical Control, for releasing required signoffs.
- Maintain regular contact with client, (architect / engineer) regarding project progress

Fonti & Associates, LTD – New York, New York
Dec. 2000 - Nov 2001

Project Co-Coordinator at Trump/New World

- Create and update punch lists for interior details of Hudson Waterfront and Trump / New World jobsite.
- Responsible for interior project completion for all owners including high end / celebrity clients.
- Monitor interior work progress of general contractor.
- Project Manager responsible for the timely completion of Tenant's Lounge and renovated various existing apartments.
- Work with and provided Architectural staff with necessary design modifications of interiors.

The Stegla Group – New York, New York
Feb. 2000- Oct. 2000

Project Coordinator

- Responsible for client/project finalization and satisfaction.
- Oversee sub-contractors in the completion of punch list items for various construction projects.
- Handle project closeout procedures.
- Maintain client and sub-contractor communication and co-ordination of change orders, submittals, material lead-time, delivery, manpower requirements and job site meetings

Desiree Fraser

Project Role: Contract Manager/Expedition

Firm
NIA technologies Corporation

Education
Brooklyn College, Certificate Program/Continuing Education: Administrative Assistant

New York City Technical College / CUNY: 300 Hours Certificate Program for Word Processing Specialist

Total Years of Experience:
years with NIA: 7
years with Other Firms: 3

Employment History
6/2007 - 12/2009, The Louis Berger Group –Expedition Specialist

10/2004-8/2006, J M. Brown Associates, Inc. – Project Administrator/Office Manager

Ms. Fraser has more than 10 years of experience in project administration and expedition. Being detail-oriented and with strong organizational skills, she can effectively handle multiple tasks simultaneously. She also possesses in-depth and hands-on experience with computer software such as, Primavera Products, Strong Expedition (Pos, COR's, PCO's OCO, CO;s Trend, RFI's, RFP's & Microsoft skills, LiveLink.

Her relevant experience includes:

The Louis Berger Group –Expedition Specialist, 6/2007 - 12/2009

Document Control Department/General Office duties

- Stamp and record via Expedition all correspondence received
- Generate correspondence received transmittal via Expedition
- Distribute to Program Managers/ Project Managers copies of all correspondence received
- Prepare transmittal via Expedition for all correspondence sent out.
- Generate Inter-Office transmittal via Expedition for all Memorandums
- Monitor, file all DDP/PM RFI responses when closed.

Builders Group – Project Administrator, 8/2006-5/2007

- Assistant to the President, Vice President & Project Manager
- Processing Proposals, Contracts, Bid Documents and correspondences
- Answer phones, Generate AWA's, RFP's, Purchase Orders etc
- Generate Requisition for payment (Expedition & Excel), Filing etc
- Communicate with Subs with reference to projects
- Prepare monthly status report for Client
- Assist with Job Training in Expedition
- Scanned and filed through Expedition & DocuWare

J M. Brown Associates, Inc. – Project Administrator/Office Manager,10/2004-8/2006

- Assistant to Project Executives, Project Managers & Asst. PM's
- Process Owner Contracts via Expedition
- Prepared Subcontractor Contracts via Expedition
- Distributed Contract Cost Documents
- Generated PCO/CP via the Expedition Change Management Module
- Generated OCO through Change Management
- Process Trends
- Typed meeting minutes, letters, etc.
- Communicated with Subcontractors re: Insurance documents & project requirement.
- Assisted with job training for Expedition use.

Desiree Fraser, continued

Builders Group – Administrative Assistant, 6/1997-2004

- Assistant to the President, Vice President & Project Manager
- Typed Proposals, Contracts, Bid Documents and Letters
- Provide Telephone Assistance, Generated AWA's, RFP's Purchase Orders etc.
- Generated AIA Requisition for payment utilizing Expedition & Excel
- General Office duties
- Communicated project related document requirements with Subcontractors
- Prepare monthly status report for client
- Assisted with Job Training for Expedition use

H.P Builders Inc. - Senior Administrative Assistant, 11/1992-6/1997

- Supervise staff of 7
- Prepared job estimates and contracts
- Prepared Project reports, Business letters
- Prepared weekly payroll and bookkeeping

Jim Smith

Project Role: APM/Project Coordinator

Firm
NIA technologies Corporation

Education

Master of Science, Civil Engineering, Geotechnical Engineering/Construction Management, New Jersey Institute of Technology, Newark, New Jersey, 2006

Bachelor of Science, Civil Engineering, New Jersey Institute of Technology, Newark, New Jersey, May 2000

Licensure & Affiliations
Member of the American Society of Civil Engineers

American Water Association

Certified Municipal Engineer for the State of new Jersey.

10 Hour OSHA certificate.

Total Years of Experience:
years with NIA: 1
year with Other Firms: 10

Employment History
6/2004-4/2009,Assistant Project MEP, Manager/ Superintendent

5/2000-6/2004, PMK Group, Inc, Consulting & Environmental Engineers, Kenilworth, NJ, Staff Engineer,

Mr. Smith has 11 years of experience in civil engineering. His expertise includes: Auto Cad Land Development, Constructware, Primavera P3, MS office and Prolog.

His relevant experience includes:

Bovis Lend Lease LMB, Inc New York, NY

- Assistant Project MEP, Manager/ Superintendent, 6/04-4/09
- Responsible for successfully assisting in the development, review, approval and implementation of project budgets, schedules and contract bid documents.
- Assist with project control, contract administration, quality assurance, cost estimating.
- Monitor construction functions for MEP Systems, to ensure appropriate execution in accordance with contract specifications, schedule and budget.
- Responsible for identifying potential delays and taking appropriate action to eliminate or minimize their cause and impact to the project.
- Ensure that accurate and timely project documentation is maintained over the construction project life cycle.
- Responsible for ensuring contract compliance with technical, safety and administrative equipments of the contract.
- Negotiate, prepare, and execute change orders (proposals) between Bovis and owners and Bovis and subcontractors. Prepare CE's to the original budget as a result of changes and revisions to the work.
- Prepare technical reports detailing findings, recommendations and determinations.
- Assist with the monthly owner's progress reports, monthly pay applications, schedules and cost reports.
- Assist with the supervision and responsibility that the total construction effort is constructed in accordance with design, budget and schedule. Includes becoming familiar with client, owner, engineer, local authorities, building inspectors, and trade/subcontractor representatives.
- Attend progress meetings with contractors to help determine appropriate construction delivery systems and the most cost-effective plan and schedule for completing the project.
- Follow up with owner, architect, engineer, and trade/subcontractor to facilitate activities. Record meeting minutes at scheduled project coordination meeting.
- Have working knowledge of building systems and design. Able to understand contracts, plans, and specifications. Knowledgeable about construction methods, materials, and regulations.
- Responsible for site safety orientation..
- Assist with inspections for TCO, commissioning and closeout process.

Jim Smith, continued

- Assist with planning, coordinating and supervising of onsite functions (scheduling, engineering, material controls, etc), supervision of all MEPS trades and providing technical assistance (interpretation of drawings, recommend construction methods and equipment, etc). Constantly review field production, analyze and improve where necessary.

PMK Group, Inc, Consulting & Environmental Engineers, Kenilworth, NJ, Staff Engineer, 5/00-6/04

- Responsible for project documentation, interfacing with clients, local officials, engineers, contractors and other professionals.
- Responsible for site design and planning for residential and commercial developments, including residential subdivisions, shopping centers, office parks and age restricted apartments.
- Responsible for design of sanitary sewer systems, water distribution systems, storm water management facilities, land grading, roadway design, soil erosion control, and individual sewage disposal systems.
- Prepared lot calculations, vertical and horizontal roadway alignment (LDD), technical specifications, earthwork volume calculations, engineering reports, estimates, and quantity take-offs.
- Responsible for the preparation and approval of Federal, State, County and local regulatory agencies applications for environmental permits.

AECOM

Performance of Expert Professional
Project Management Services
as Requested on a "Call-In" Basis
During 2011, 2012, 2013 and 2014
RFP No. 22388

Section D. Relevant Experience

Section D. Relevant Experience

AECOM is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 51,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in more than 100 countries and had revenue of $6.3 billion during the 12-month period ended June 30, 2010.

Many of our assignments have been performed on a call-in, as-needed, task order basis. Our approach to such assignments has been to mobilize quickly, assess the exact nature of the project, determine what is necessary to perform the work and carry out the assignment on-time and on-budget to the client's satisfaction. AECOM is currently providing project management and support services to the Authority for the delivery of projects in the Capital Plan. AECOM staff has worked on a wide variety of assignments throughout the Authority, including all of the bridges and tunnels, and PABT. All of this experience, along with our current design effort for the WTC Transportation Hub and construction management support, gives AECOM an unrivalled familiarity with the Authority's facilities. Brief descriptions of the projects that summarize AECOM and Tishman Construction's relevant experience are presented below. Experience of our other subconsultants can be found in Section G M/WBE Participation.

PANYNJ Newark Liberty International Airport, Terminal A Program Management

Client: PANYNJ
Contact Person: James Heitmann
Title: Manager, Airport Facilities & Redevelopment
Phone/email: (973)961-6205; jheitmann@panynj.gov
Project Start/End: 2010-2013
Project Cost: $2.2 to $2.7 Billion

AECOM/Tishman has been selected by the PANYNJ to provide On-Call PM Services for the new Terminal A at Newark Liberty International Airport. The facility will be a state-of-the-art domestic facility that will be incrementally developed in response to forecasted demand. Phase I will be comprised of 33 Group III gates configured and sized to flexibly handle Group IV and V aircraft. Forecasted passenger demand for the Terminal is 11 Million Annual Air-Passengers (MAAP) in 2018. It is anticipated that the terminal will grow to a maximum of 45 Group III gates in two subsequent incremental expansions to meet the forecasted ultimate demand over the life of the terminal.

The estimated cost of the overall Phase I Program, which includes: a 33-gate domestic terminal; all required roadways; a 3000-space parking garage; all required utilities and infrastructure and associated enabling projects, is currently estimated at between $2.2 and $2.7 billion.

PANYNJ LaGuardia Airport Program Management and Planning

Client: PANYNJ
Contact Person: Warren Kroeppel
Title: General Manager
Phone/email: (718) 533-3401; wkroeppel@panynj.gov
Project Start/End: 1998-2003
Project Cost: $800 Milliion

AECOM's legacy company, DMJM Harris, was responsible for planning and program management of an $800-million program to modernize LaGuardia Airport. Major elements of this program included: new concourses in the Central Terminal Building; remain overnight aircraft parking positions; central heating and refrigeration plant, central electric substation; new facilities for maintenance of aircraft and ground service equipment; a consolidated cargo facility; an aircraft hydrant fueling system; an on-airport circulatory

roadway system; and a parking garage. As the prime consultant of a multidisciplinary team, DMJM Harris was responsible for:

- Establishing programmatic requirements for modernized concourses and replacement facilities
- Developing and evaluating conceptual design options for the concourses, including accommodation of passenger screening, in-line baggage screening, enhanced retail facilities and improved passenger circulation
- Maintaining a partnership with airlines at LGA through periodic program updates and presentations
- Developing construction cost estimates
- Preparing construction phasing plans
- Developing program implementation schedules
- Preparing an environmental processing strategy for each component of the program
- Conducting financial analyses

AECOM's legacy company DMJM Harris was instrumental in preparing program briefings to the Port Authority's Board of Commissioners, which resulted in the approval of Planning Authorization to advance this program.

We assisted in the management of the following projects:

- Police, Crisis Command Center and Aircraft Rescue and Firefighting (ARFF) Facility
- East End Roadway Improvements
- Roadway Improvements West of the CTB
- Variable Message Signs Upgrade
- Replacement of 102nd Street Water Main
- Parking Demand Study.

Tappan Zee Bridge Program Management

Client: NYSDOT
Contact Person: Michael Anderson
Title: Program Director
Phone/email [redacted]

Project Start/End: 2002-2012
Project Cost: $16 Billion

AECOM has been providing program management to the NYSDOT, the NYSTA, and Metro-North Railroad for major improvements to a 30-mile long transportation corridor centered on the Tappan Zee Bridge over the Hudson River. We are working closely with other consultants as an extension of the clients' staffs, coordinating and managing the programs' primary elements:

- Alternatives Analysis, Draft and Final Environmental Impact Statement (per NEPA/SEQRA),
- Engineering support activities, and
- Communication with project stakeholders and the public.

As Program Management Consultant, we are responsible for a wide range of engineering and management services for this program, including:

- Development of the project management plan
- Review of other consultants' work progress
- Quality management
- Project Controls/Scheduling
- Change management
- Property acquisition support
- Public outreach and participation

Chicago Transit Authority
Capital Construction Program Management Services, Chicago, IL

Client: Chicago Transit Authority
Contact Person: Christopher Bushell
Title: Chief Infrastructure Officer
Phone/email: [redacted]

Project Start/End: 2005-2010
Project Cost: $2.65 Billion

AECOM's legacy company, DMJM Harris, led a joint venture assisting the Chicago Transit Authority (CTA) in managing an extensive five-year capital construction program. This multibillion-dollar investment will renew existing CTA facilities, bringing them

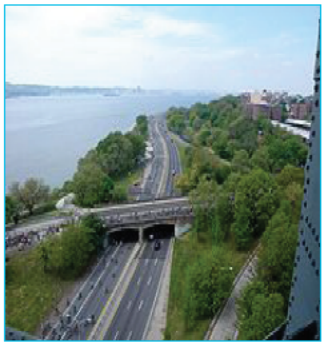
to a state of good repair, and provide added capabilities to transit service. The construction program requires integration of multiple projects involving all elements of the CTA system.

Our role is to recommend proper management of the construction program, including identifying potential projects, prioritizing needed improvements, establishing individual project costs and implementation schedules, and integrating multiple projects into a coordinated implementation schedule.

Belt Parkway Bridges Program Management and Resident Engineering/Construction Inspection Services, Brooklyn, NY

Client: New York City Dept. of Transportation
Contact Person: Dan Hom
Title: Engineer-in-Charge
Phone/email [redacted]
Project Start/End: 2004-2011
Project Cost: $700 Million

AECOM's legacy company, DMJM Harris, is in joint venture to provide program management, resident engineering and construction inspection services to the NYCDOT for the reconstruction of seven bridges on the Belt Parkway in Brooklyn. AECOM legacy company, DMJM Harris, performed constructability reviews, scheduling, design, and construction and the implementation of a community outreach program. The resident engineering and construction inspection services will focus on overseeing the actual construction, to ensure the delivery of a quality project. Other important aspects of the project include environmental monitoring, such as lead and asbestos abatement and removal, and landscaping. The single most critical feature is the utilization of multi-stage construction, with the final horizontal alignment basically matching the existing highway alignment.



As such, the Maintenance and Protection of Traffic will be absolutely essential during construction.

Lincoln Center Redevelopment Program Management

Client: Lincoln Center Development Project, Inc.
Contact Person: Peter Flamm
Title: Director & Chief of Staff
Phone/email: [redacted]
Project Start/End: 2005-2009
Project Cost: $500 Million

In advance of the construction start in 2006, AECOM's legacy company, DMJM Harris, provided project management services to the Lincoln Center Development Project, Inc., for the $500 million redevelopment of the prestigious performing arts complex. The project included major improvements to surrounding roadways, utilities, and pedestrian access, as well as new and modernized auditoriums, plazas, and administrative/ support areas. The work included the development of strategies for risk management, construction contracting, staging, and sequencing to satisfy stringent client, agency, and community concerns.

PANYNJ Program Management Services on an As-needed Basis

Client: PANYNJ
Contact Person: Vincent Antes
Title: Senior Program Manager
Phone/email: (973) 961-6172;vantes@panynj.gov
Project Start/End: 2001-2006 (contract 2)
Project Cost: $500 Million

AECOM's legacy company, DMJM Harris, continued to provide Program/Project Management services to assist the PANYNJ in managing their ongoing Capital Program and other major projects. Services included providing project managers as an extension of staff on-site, responsible for the day-to-day management of projects. Project Managers were provided to work with the various Line Businesses, including Aviation, TB&T, Port Commerce, PATH, World Trade Center, and Economic

Development. Some of the projects we managed include:

- Bayonne Bridge Deck Rehabilitation
- Holland Tunnel Architectural and Structural Rehabilitation
- Outerbridge Crossing Deck Rehabilitation
- JFK Central Substation Upgrade
- JFK Central Taxi Hold Expansion
- LGA Interim Improvements to Concourses A, B, and C
- LGA Deck Protection and Preservation Study
- LGA Pavement Rehabilitation of Taxiway A
- PATH Restoration of Exchange Place Station - Post 9/11
- ExpressRail at Port Elizabeth
- Ports - Multi-Facility Maintenance Dredging
- EWR Southern Access Roadway Project - 3 Contracts
- EWR CTA Roadway & Parking Lot Improvements
- EWR P4 Parking Garage & Monorail Station Expansion

PATH Logistics Planning & Program Management

Client: PANYNJ
Contact Person: Wilfredo Guzman
Title: Project Manager
Phone/email: (201) 216-6804; wguzman@panynj.gov
Project Start/End: 2007-2007
Project Cost: $4.5 Million

AECOM was retained by the PANYNJ to provide as-needed program management and oversight services for PATH. AECOM is assisting PATH with logistics planning for its $3.3-billion Capital Program, the largest in its history.

Task Order 1 PATH Capital Program Logistics: AECOM's efforts to support this program initially began with a thorough analysis of the various components of the Capital Program, including schedule, staffing, and budgets. Additional analyses were conducted with respect to identifying essential internal PATH efforts required to support the Capital Program, including Facility Force requirements, equipment requirements (Work Trains), and staging facilities requirements (existing yards). Track capacity was analyzed with respect to the availability of time slots during which work can be scheduled. Collectively, this effort culminated in a Comprehensive Logistics Plan, which identified several key recommendations to facilitate the Capital Program work, including creation of a dedicated Capital Program Logistics Group to coordinate the various elements of the Capital Program.

Task Order 2 PATH Logistics Planning Support Services: The Logistics Planning Group coordinates with PATH's Transportation, Way and Structures, and Power, Signal and Communications Divisions, as well as project managers from the Construction Management Division and the World Trade Center project, to prepare master monthly and weekly track usage plans, identify and mitigate potential conflicts, and monitor the day-to-day implementation of scheduled field activities. Additional responsibilities included: planning for new rail storage facilities at Harrison and D yards; construction phasing oversight for the signals program; coordinating track usage and facility force support for the tunnel hardening program; and construction phasing support planning for the WTC projects that require PATH support. Furthermore, AECOM furnishes daily status reports each morning to the PATH Project Manager and to the PATH Assistant Director of Capital Programs, as well as monthly reports to the Executive Director of PATH and the PANYNJ Executive Director.

Program Management Services for O'Hare International Airport Modernization Program, Chicago, Illinois

Client: City of Chicago, Department of Aviation
Contact Person: Christopher Arman
Title: Project Manager
Phone/email: [redacted]
Project Start/End: 2007-2011
Project Cost: $24.4 Million

AECOM is providing program management services for the first phase of the O'Hare Modernization Program (OMP) at O'Hare International Airport in Chicago – the world's second busiest airport. Our aviation specialists will reconfigure O'Hare's intersecting runways into a more modern, parallel layout to increase efficiency and capacity. The first phase—worth 2.9 billion in construction dollars—will design and construct three runways, relocate 3 miles

of Union Pacific Railroad tracks, relocate the water detention basin on the south airfield, and numerous other projects required to enable completion of the full OMP.

Yankee Stadium Redevelopment Program Management Services, New York, New York

Client: NYC Economic Development Corporation (NYCEDC)
Contact Person: Dmitri Konon
Title: Senior Vice President
Phone/email [redacted]
Project Start/End: 2007-2010
Project Cost: $9 Million

The centerpiece element in a major economic redevelopment plan for the South Bronx is the creation of a New Yankee Stadium. The new $800-million open-air facility with a capacity for 54,000 spectators will replace the existing outdated stadium. The project also includes the construction of four new parking garages containing approximately 4,735 spaces and the development of new and replacement recreational park facilities within the vicinity of the proposed stadium.

A Tishman-AECOM joint venture is handling program management for the Yankee Stadium redevelopment. This complex initiative, which includes multiple projects being built in close proximity to each other, requires close coordination with respect to schedule, staging, logistics, maintenance and protection of traffic, material deliveries, utility relocations and other work. The program management team will provide the services necessary to ensure the safe, effective, efficient and timely completion of all design and construction activities for the overall stadium redevelopment effort.

Delaware River Joint Toll Bridge Commission, Program Management, Pennsylvania & New Jersey

Client: Delaware River Joint Toll Bridge Commission
Contact Person: George Alexandridis
Title: Phone/email: [redacted]
Project Start/End: 2008-2009
Project Cost: $600 Million

The Delaware River Joint Toll Bridge Commission (Commission) operates seven toll and 13 toll-supported bridges between PA and NJ over the Delaware River. In 2001 the Commission embarked on an ambitious capital improvement program to both enhance its existing facilities and to expand capacity to meet projected increased traffic demands. AECOM has held three program management contracts over the past 5 years and has played an integral role in assisting in implementing the capital program.

JFK Airport, Runway 13R-31L Reconstruction

Client: PANYNJ
Contact Person: James Steven
Title: Manager Physical Plant & Redevelopment
Phone/email: [redacted]
Project Start/End: 2008-2011
Project Cost: $348 Million

This is a $348-million design and reconstruction of JFK's longest runway. Construction included delay reduction improvements to taxiways for Runway 13R-31L to increase operational efficiencies and reduce air traffic delays of approximately 10,485 hours annually. This project will result in approximately $55.36 million of annual savings in aircraft operating costs and the value of passenger time, based on FAA modeling. Lighting and electrical infrastructure was also upgraded. Minimized customer impacts by working closely with JFK operations, the FAA and airlines on the detailed construction staging and operating plans. These plans included scheduling the runway closure during the non-peak travel season, using different runway configurations to better utilize existing capacity and flight schedule adjustments by the airlines.

JFK Airport Rehabilitation of Taxiways "R", "SB", "SC" and "SD"

Client: PANYNJ
Contact Person: James Steven
Title: Manager Physical Plant & Redevelopment
Phone/email: (718)244-4502; jsteven@panynj.gov
Project Start/End: 2011-2013
Project Cost: $13.5 Million

Taxiway R Pavements, including shoulders and erosion pavements from T/W B to T/W S, show signs of distress and require rehabilitation. Presently the turning radii at Taxiways SB and SC are too small to accommodate the new large aircraft and widening is required. The scope of work generally consists of milling and overlaying with a nominal 3" of Asphalt concrete on the existing taxiways and shoulders; full depth roadway pavement removal and replacement where required for fillet improvements; and adjustment of existing drainage structures, castings and any associated piping if required.

JFK Taxiway C Rehabilitation & Associated RVSR

Client: PANYNJ
Contact Person: James Steven
Title: Manager Physical Plant & Redevelopment
Phone/email: (718)244-4502; jsteven@panynj.gov
Project Start/End: 2011-2013
Project Cost: $15 Million

The rehabilitation of the pavement for Taxiway C and associated RVSR as identified in the 2007 – 2013 Pavement Management Plan is required due to deteriorating pavement. The work will consist of the milling and overlaying of the existing taxiways, shoulders and RVSR, fillet improvements, drainage improvements, pavement marking, lighting, and signage.

LaGuardia Airport, Rehabilitation of Sanitary Ejector Pits at Central Terminal Building

Client: PANYNJ
Contact Person: Robert Armocida
Title: Program Manager
Phone/email: (718)533-3519; rarmocid@panynj.gov
Project Start/End: 2007-2010
Project Cost: $13 Million

This project replaced the sanitary lift station tanks and pumps for the Central Terminal Building Concourse and Terminal areas. It also replaced the force main piping from the tanks to the connections with the city sewer system outside the building.

LaGuardia Airport, Upgrade of the HVAC System for Hangar 7 South Maintenance areas

Client: : PANYNJ
Contact Person: Robert Armocida
Title: Program Manager
Phone/email: (718)533-3519; rarmocid@panynj.gov
Project Start/End: 2008/2010
Project Cost: $4.1 Million

This project upgraded the air handling units and added an external Chiller unit to improve the HVAC system for maintenance areas, meeting rooms, and locker rooms in Hangar 7 South.

LaGuardia Airport, Replacement of CTB Concourse HVAC System

Client: : PANYNJ
Contact Person: : Robert Armocida
Title: Program Manager
Phone/email: (718)533-3519; rarmocid@panynj.gov
Project Start/End: 2007-2010
Project Cost: $14.8 Million

This project is removing 19 Air Handling units from the roofs of the Concourses in the Central Terminal Building. The units are being replaced with upgraded air handlers with improved filters and controls so that air quality in the Concourses and the efficiency of the heating and cooling systems will be improved.

LaGuardia Airport, Removal of Low to High Pressure Crossover Connections

Client: : PANYNJ
Contact Person: Robert Armocida
Title: Program Manager
Phone/email: (718) 533-3519; rarmocid@panynj.gov
Project Start/End: 2007-2011
Project Cost: $2.6 Million

This project removed five crossover connections between the Low Pressure and High Pressure water lines. In conjunction with the new Pumping Station, this allowed the High Pressure system to be isolated from the New York City Low Pressure system on the airport, reducing future maintenance and testing requirements. The project also added or replaced six backflow prevention devices at the water entrance to the Authority buildings.

Newark Liberty International Airport, Construction of Data Center

Client: PANYNJ
Contact Person: Chandu Patel
Title: Program Manager
Phone/email: (973) 961-6178; chpatel@panynj.gov
Project Start/End: 2008-2010 (Project on hold)
Project Cost: $7.4 Million

This project provides for the construction of a Data Center in existing office space on the Mezzanine level in Building 157. The proposed center will serve as back up to the existing data center located at the Teleport facility. The scope of this project includes furnishing and installation of IT, electrical and mechanical systems; upgrade and modifications of structural and architectural building components and systems; and upgrading of utilities. The project will include a connection to the EWR fiber optic cable backbone; construction of a UPS/Battery room at grade level abutting the north face of Building 157; and a 750 kW stand by generator. The building's electrical power will be upgraded with a new feed to be provided by PSE&G.

Newark Liberty International Airport, Mechanical and Electrical Upgrades of the CTA Toll Plaza

Client: PANYNJ
Contact Person: Chandu Patel
Title: Program Manager
Phone/email: (973) 961-6178; chpatel@panynj.gov
Project Start/End: 2005 – 2011
Project Cost: $9.4 Million

The existing CTA Toll Plaza Administration Building requires substantial upgrades to remain operational. This project will provide for the replacement of chillers, boilers, piping, and HVAC controls in the Administration Building, tollbooths, and adjacent heating plant. Electrical and communications systems upgrades, installation of a backup generator, upgrading of sprinkler system and fire alarm system to current standards, removal of asbestos, installation of an overheight vehicle detection system and architectural upgrades are also included in the project. Temporary office space will be constructed for the toll plaza administrative staff adjacent to the existing toll plaza so that toll plaza operations will be unaffected during construction.

Newark Liberty International Airport, Priority Repair of Building Nos. 11, 46, 175 and 178

Client: PANYNJ
Contact Person: Chandu Patel
Title: Program Manager
Phone/email: (973) 961-6178; chpatel@panynj.gov
Project Start/End: 2008-2011
Project Cost: $600K

This included repair of a split wood purlin in the Autoshop Building 11; structural reinforcement and concrete encasement of columns in the CHRP Building 46; repair of cracks and spalls in the P-4 Garage Building 175; and installation of expansion joints in the railings and repair of damaged railings in the C Garage Building 178. Work in the parking garages requires coordination with Landside Operations to maintain a safe environment for airport patrons.

Teterboro Airport, Installation of Backflow Prevention Devices

Client: Port Authority of New York and New Jersey
Contact Person: Chandu Patel
Title: Program Manager

Phone/email: (973) 961-6178; chpatel@panynj.gov
Project Start/End: 2008-2013
Project Cost: $2.9 Million

The PANYNJ is mandated by NJDEP, Bureau of Safe Drinking Water, to provide protection of the public water supply source and its own water supply network from potential contamination by installing backflow prevention devices at Teterboro Airport.

This project addresses the domestic and fire protection water services at Buildings 27, 72, 73 & 121; at two irrigation services; and at two existing meter pits located along Moonachie Avenue.

PANYNJ "EDM Call-In" Consulting Services, PATH Downtown Restoration Program, WTC GIS Utility Database

Client: PANYNJ
Contact Person: Paul Pietropaolo
Title: Project Manager
Phone/email: (212) 435-5563; ppietrop@panynj.gov
Project Start/End: 2002-2006
Project Cost: $202,752

In order to better support the restoration of the World Trade Center site, AECOM recommended the establishment of a Geospatial Information System. The system was developed utilizing the geospatial data model developed for the JFK GIS program, resulting in significant initial savings. The system was created using AutoDesk MapGuide and contained all utility and infrastructure data in a GIS format. The system was developed for use in planning, design, and facility maintenance of the PATH system and any future facilities that will be developed on the site. Data is being collected from other agencies and a standard GIS database will provide information for the Port Authority and cooperating agencies.

AECOM advised thePANYNJ on various next steps including Building Information Modeling (BIM) and the inclusion of Facility Maintenance capabilities to provide the same level of information management for the buildings that they have for the utilities.

PANYNJ "Security Capital Program, PM Consulting Services" Security Program Website Development & Support Relating to Livelink, Project Management for PATH Tunnel Strengthening

Client: PANYNJ
Contact Person: Michael Valletta
Title: Program Director
Phone/email: (201) 595-4748; mvallett@panynj.gov
Project Start/End: 2002 - Present
Project Cost: $2.5 Million

AECOM has been contracted to provide project management staff for the PATH Tunnel Strengthening Program, Program Website Development and Support, and Information Security as it relates to the use of the PANYNJ's secure website, Livelink. The scope also includes assisting in training staff and consultants on the use of Livelink and on Security Program protocols as they relate to document control and the handling of Confidential and Privileged Security Information and Sensitive Security Information.

In addition, development and monitoring of information security policies and workflow processes are being defined and built in to the website operation. This website has pioneered numerous business processes for the PANYNJ, including the first use of Livelink to issue a major RFP, maintaining all RFP documents, addenda, bidders' questions and responses, etc., on the secure website. In addition, for the first time we are using this website to exchange RFIs and submittals of Confidential and Privileged Security Information/SSI. This is being worked in conjunction with Primavera Expedition to efficiently manage both the RFI/Submittal status as well as the documents themselves.

PANYNJ Electronic Document Management Call-In New York, NY

Client: PANYNJ
Contact Person: Peter Zipf
Title: Deputy Chief Engineer
Phone/email: (212)435.6430; pzipf@panynj.gov
Project Start/End: 2000-Present
Project Cost: $4.5 million

AECOM has provided technology conceptual development and planning services, as well as staff to implement many of the Engineering Department's Technology Initiatives, as follows:

Centralized Electronic Storage of Contract Drawings

This initiative will eventually obviate the need for the optical scanning of archived drawings. It involves having the design engineers and architects electronically transmit contract drawings from their desktop from the "Port Authority Review" stage through the "Drawing of Record" stage, with all drawings and transactions being centrally stored and backed up. AECOM personnel have worked with the Port Authority to develop and implement this initiative.

Electronic Document Center (EDOC)

In 1999 an initiative was implemented to address the backlog of as-built drawings. This work included inventorying and consolidating all active contract drawings in each of the Engineering Program Management units. Approximately 65,000 drawings were inventoried and entered into the new database system. One result was the discovery that approximately 1,100 of those drawings were of no value because they were duplicates, working drawings, etc., and they could be discarded. The Port Authority decided to call the final version of the drawings, including the final changes from construction, "Drawing of Record" rather than As-Built. As a result of this, the Electronic Document Center (EdoC) was put into operation on the 72nd Floor of the 1 World Trade Center in June 2000. The objective of the EDoC Center was to centrally manage the storage of contract drawings, both in Mylar and electronic format, for all active contract drawings. Because of EDoC's existence at the time of the World Trade Center disaster, documents that had been processed through the EDoC were saved as a result of offsite backup of the database as well as the offsite storage of originals. Within two weeks of the disaster the EDoC Center was up and running at another PANYNJ location.

Terminal B Replacement of AC12, AC13 and Hot Water Heating System Pumps,Newark Liberty International Airport

Client: PANYNJ
Contact Person: James Heitmann
Title: Manager, Airport Facilities & Redevelopment
Phone/email: (973) 961-6205; Jheitmann@panynj.gov
Project Start/End: 2006-2011
Project Cost: $16.5 Million

This mechanical upgrade contract provides for the replacement of the existing HVAC central mechanical equipment serving the B-3 Satellite of Terminal B, both passenger and ramp levels, and the outer half of the B-3 connecting corridor as well as the associated hot water heating system pumps and distribution VAVs. The existing pneumatic controls were replaced with more responsive Direct Digit electronic controls (DDC). The system was upgraded to provide for economized operations and a fully integrated fire smoke purge system was added.

Terminal B FIS Substation Emergency Generator Capacity Upgrade, Newark Liberty International Airport

Client: PANYNJ
Contact Person: James Heitmann
Title: Manager, Airport Facilities & Redevelopment
Phone/email: (973) 961-6205; Jheitmann@panynj.gov
Project Start/End: 2008-2011
Project Cost: $5.8 Million

This project's goal was to increase the total back-up generator capacity of the F.I.S. Substation and to ensure that all Code required Life Safety Systems, Customs and Border Patrol screening functions and other Operational Priority loads are nominally independent of the utility power grid. The project included a new diesel emergency generator, 2,250 KW in size, to supplement the existing generator. Enclosed in a separate enclosure, including HVAC, ventilation, lighting, fire alarm and suppression, above-ground storage tank and fill port leak detection, etc. All systems are integrated into the central building

systems. The existing "kirk-key" transfer system will be replaced with automatic transfer capability with a manual over-ride and have an automatic re-transfer capability.

Terminal B Rehabilitation of Satellite B-2 Mechanical and Electrical Systems, Newark Liberty International Airport

Client: PANYNJ
Contact Person: James Heitmann
Title: Manager, Airport Facilities & Redevelopment
Phone/email: (973) 961-62055; Jheitmann@panynj.gov
Project Start/End: 2008-2012
Project Cost: $14.5 Million

This project will replace in kind the existing Electrical and HVAC systems serving Satellite B2. All systems were remediated/updated to comply with present code considerations such as fresh air intake capacity, air changes, etc. Specific scope objectives included:

- Replace the paired power feeders and distribution switchboards for the B2 Satellite.
- Satellite B2 switchgear room will be upgraded for code compliance for fire rating and egress.
- Replace all local VAV boxes in the distribution system in kind on both the passenger and ramp levels. Jetway fans and integrated controls to be rehabilitated for code compliance.
- Replace the existing pneumatic controls system with a Direct Digital Control system from either Honeywell or Trane.
- Integration of In-Line Baggage Conveyor HVAC equipment controls will be included.
- Replace existing hot water heating system pumps with variable frequency drives.

PANYNJ Capital Security Program

Client: PANYNJ
Contact Person: Alex Flores
Title: Senior Resident Engineer
Phone/email: (201) 656-0086; aflores@panynj.gov
Project Start/End: 1/2007-5/2011
Project Cost: $230 Million

Tishman is presently serving the PANYNJ as Construction Manager/General Contractor for their Security Capital Program. This program incorporates more than 30 projects at multiple PANYNJ facilities, including all three metropolitan airports, PATH tunnels and stations, several of the area's bridges and tunnels and the PABT.

Multiple work orders were completed as part of this project, including strengthening the GWB Tower Base, crash barriers and CCTV systems throughout the Journal Square Transportation Center, CCTV systems at the NJ Marine Terminal and the Auto-Marine Terminal at Port Newark/Elizabeth, and installation of back-up 800 MHz Radio system at the GWB, PABT, LaGuardia Airport, and Newark Airport, and bollard protection at Terminal B at Newark Airport.

PANYNJ Port Authority bus Terminal (PABT) Air Rights Development, New York, New York

Client: PANYNJ
Contact Person: Joanne Kozel
Title: Architect Program Manager
Phone/email: (212) 435-6519; jkozel@panynj.gov
Project Start/End: 2008-Ongoing
Project Cost: $700 Million

Tishman was engaged by the PANYNJ to assist in the private development of an office tower over the existing PABT. The project included mixed-use retail and various public improvements within the North Wing of the facility. The existing terminal accommodates approximately 200,000 daily commuters and provides access to connecting transportation services, including bus, subway and taxi systems.

Tishman was contracted to represent the PANYNJ; supervise the program; ensure continued efficient operation of the PABT during the design and construction periods; provide program management for the relocation of PANYNJ services and tenant relocations; cost estimating, prepare and negotiate leases and construction contracts; community relations; design review; traffic and pedestrian analysis; phasing and logistics review; constructability review; budget evaluation; management and document control; submittal and comment processing; meetings; safety; scheduling/cost control; inspection/quality control; and progress reports.

AECOM

Performance of Expert Professional
Project Management Services
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During 2011, 2012, 2013 and 2014
RFP No. 22388

Section E. Management Approach

Section E. Management Approach

I. Background

Over the past few years, The Port Authority of New York and New Jersey ("the Authority") has evaluated and reviewed every aspect of its organizational structure, resources, processes and procedures for the implementation of its capital investments. To ensure effective and efficient delivery of the Capital Plan, the Authority created the Project Management Office (PMO), which provides consistent project management support services to project management staff in the Line Departments. In providing this consistency, the PMO applies state-of-the-art methodologies such as enhanced project tracking and controls (Monthly Capital Performance Reports), risk management (Project Risk Register), streamlined procedures (pending Project Management Manual), and enhanced integration with facility operations (co-located project management staff). It is within this framework and in order to meet periodic surges in workload that from time to time the Authority requires expert professional project management services from professional engineering firms such as AECOM, organizations that possess experience in managing Authority capital projects.

II. What AECOM brings to the Authority

We are proud to have provided expert professional project management staffing to the Authority over the past twelve years, working side by side with agency staff. We are confident that AECOM is the "Organization of Choice" to continue to work with the Authority. We are ready to provide dedicated teams of qualified professional staff, depth of resources, extensive project experience, and in-depth knowledge that can be transferred to the Authority.

Our team will be led by Mr. **Kevin Pierce, PE**, who will serve as **Project Coordinator** and act as liaison between the Authority and the AECOM team. Mr. Pierce will be AECOM's main point of contact, coordinating the day-to-day activities, as well as performing the internal project management responsibilities for the contract. Having provided program and project management services for many PANYNJ capital programs over the past 10 years, Mr. Pierce is intimately familiar with the PANYNJ's way of doing business. Mr. Pierce's PANYNJ experience includes the Security Capital Program, Newark Airport Redevelopment, Global container terminal and the WTC Vehicle Security Center.

Our **Officer-in-Charge** will be Mr. **John Azzaro, PE**, who has served in the capacity of Project Coordinator under the existing "As-Needed" contracts during the past four years. Mr. Azzaro will be coordinating closely with Mr. Pierce, and will be providing the corporate oversight for the successful performance of the contract – both functionally and financially. He is a well known and accomplished Project Manager and has delivered many complex high quality projects for the Authority. Mr. Azzaro has over 30 years of professional engineering and management experience, with half of those years spent on Authority projects.

To complement our in-house resources, we have engaged the services of the following subconsultants for the performance of the assignment:

- **Tishman Construction** will provide construction cost estimating, scheduling and constructability reviews.
- **Ellana, Inc.** is a certified WBE, providing cost management and value engineering.
- **G2 Project Planning** is a certified WBE, providing cost estimating, project scheduling and value management.
- **Industria** is a certified MBE, providing project management and document control.
- **NIA Technologies Corp.** (NIA) is a certified MBE, providing budget and cost control, and document management and control.

III. How AECOM will manage the Contract

To effectively manage this contract, we will concentrate on the following:

- Screening and providing Project/Program Managers
- Managing the tasks on as "As-Needed" basis
- Coordinating the integration of staff
- Ensuring the Project Managers have the tools they need

Each of these elements alone is important, and when combined, they will assure a high quality level of service.

Screening and providing Project/Program Managers

Responding to the Authority's request for staff support in a fast and efficient manner that provides the most appropriate individuals is our key objective. We have demonstrated our depth of resources by placing experienced project managers, project controls and other support staff in key roles with the Authority. In his role as Project Coordinator, Kevin Pierce will be in charge of this function.

During the last 12 years, working closely with the Authority, AECOM has developed an effective approach which addresses the Authority's requests by delivering experienced staff in the shortest time possible. Our key to success in this area has been our focus on prescreening our staff to match the expertise of the individual with the specific requirements of the position.

AECOM identifies candidates throughout our team and performs an internal screening process prior to identifying any candidate to the Authority. This process ensures that we minimize the time to fill the position, and it minimizes any inconvenience to the Authority. **As a measure of our successful approach, we are extremely proud that nearly every one of our candidates interviewed by the Authority has been accepted.**

Managing the tasks on as "As-Needed" basis

AECOM's home office role does not stop upon placement of staff. **Kevin Pierce** will be responsible for the client coordination of the contract, as well as addressing staff related issues. This role includes:

- Task Order Development/Approvals
- Overall Contract Coordination
- Monthly/Cumulative Cost Control
- Invoice Preparation
- Staff Training and Development
- Quality Assurance/Quality Control
- Periodic Client Interviews for Review of Staff Performance

The prompt processing of task orders, and maintaining the project financial records, are important functions that ensure both the Authority and AECOM have complete information on the status of the contract. We have developed tracking spreadsheets that allow us to monitor the monthly costs for each Task Order, as well as cumulative costs to date, by tracking each invoice submitted. In addition, we maintain a summary spreadsheet that tracks all Task Orders, their start and end dates, Purchase Order Numbers and approved Budgets – this allows us to keep the Authority informed as to when renewals of Task Orders will be required. At times we have funds remaining in a Task Order budget, requiring only a time extension without additional funding.

Coordinating the Integration of staff

A key indicator of the success of AECOM's service will be our ability to assign staff who are enthusiastic about their project management role with the Authority. Our staff must be fully integrated not only into the AECOM organization, but into the Port Authority organization as well. This is important to ensure that we are truly able to function as an "Extension of PA Staff." Based on the success of the ongoing contract, it is apparent that the Authority and AECOM, working together, have been very successful in integrating our Project Managers and Support staff.

We must also ensure that our staff members understand their importance in our own organization. This is accomplished by ensuring that communication with and about the firm is maintained on a regular basis. Kevin Pierce, as the primary liaison with our staff, will ensure this objective is met on issues such as:

- Coordination with on-site staff and the Authority
- Reconciliation of AECOM and Authority timesheets
- Distribution/Approval/Submission of monthly task order invoices
- Communications between home office and on-site staff
- Guidance to staff on Authority project management standards and procedures

To keep assigned staff updated on the AECOM organization, periodic lunchtime meetings will be held to discuss current AECOM issues, such as Human Resources updates, company policies and procedures, or simply to discuss current corporate activities.

Ensuring the Project Managers have the tools they need

Our Project Managers are trained to prepare project-specific Project Management Plans for each project they manage. They are required to do this whether they are in their home office or on assignment in a client's office. To assist in preparing these plans, they are provided with guideline documents developed exclusively for AECOM, which give them reminders of all the processes required for producing successful projects, and checklists for completion of deliverables. The Authority's Project Management Plan protocols are similar to those used by AECOM. For this assignment, our Project Managers will use their AECOM experience in conjunction with the Authority's protocols to ensure compliance with the Authority's requirements.

Task A - Project Initiation Services

Experienced and effective Project Managers understand the importance of developing a comprehensive Project Management Plan at the beginning of the project. As indicated above, AECOM has a comprehensive project management plan format that our Project Managers apply based on the relative size and complexity of the project. The AECOM team can combine our expertise and the familiarity with the Authority's current administrative and project management procedures to ensure successful project start-up.

Our extensive expertise is an important asset in providing effective project management for the Authority's projects. Furthermore, our staff's intimate knowledge of Port Authority processes, procedures, facilities, and stakeholders will assure that the Authority's Capital Plan can be delivered in the upcoming years. In addition, our staff has extensive experience in managing the design and construction of major infrastructure projects where public access needs to be maintained during construction. These include all modes of transportation infrastructure including airports, bus terminals, bridges, tunnels, buildings, transit facilities and systems, and sites involving concessionaires and tenants. Maintaining operations, and avoiding delays or interruptions of services is essential.

Our management approach will be applied to the selection of experienced Project Managers, and to defining the key project elements including scope definition/owner requirements, budget development, schedule development, and preparation of deliverables, as described below:

Scope Definition/Owner Requirements

The first and fundamental requirement in the control of any project is to define the scope and define the owner and user requirements. The Authority divides the project delivery process into four stages:

- Stage I - Project Development
- Stage II - Preliminary Design
- Stage III - Final Design/Contract Documents
- Stage IV - Construction

All Authority projects are administered and budgeted using this breakdown. At the beginning of the project, the Project Manager must work with the project stakeholders to define the scope and end user requirements of the project and what is to be included. For example, for a building project, size,

space program, occupancies, together with equipment, systems and furnishing requirements must be defined. For infrastructure projects, the geographic limits, connections to existing services, as well as paving, utilities, landscaping, traffic controls and exterior lighting requirements must be defined.

Once these parameters are established, the Project Manager must work with the Lead Engineer/Architect (LEA) and the design disciplines to include all the investigative work that will be needed. Depending on the stage, this work may include topographical and utility surveys, geotechnical and environmental investigations and review of record drawings.

Budget Development

Our Project Managers will first develop a total project budget, including construction cost, planning and engineering (E-0 or P-0 forms), general and administrative, project contingency and financial expense utilizing a Project Cost Pro-Forma form. Working with the project team, they will establish the detailed project budget, broken down by stages (I to IV) and by Organization Units. As each of the stages is completed, the design budgets are reviewed, and adjusted for scope and schedule revisions as appropriate.

Schedule Development

Working under the guidance of the Authority's Program Directors and key project stakeholders, schedules will be developed, using Primavera, to reflect the input of technical, construction and facility operational staff. The schedule will establish a direct correlation between scope budget and time and will facilitate the taking of corrective action when unforeseeable circumstances arise.

Among the schedule management tools utilized by both AECOM and the Authority are multi-level CPM schedules; detailed Work Breakdown Structures (WBS); master (milestone) and detailed schedules; and "look ahead" schedules, all of which are continuously reviewed and updated to reflect the progress of the project. A periodic schedule review assists in identifying areas where corrective action is required and ensures the project is progressing according to the baseline schedule.

Deliverables

The Project Management Plan will clearly outline the project deliverables from inception to commissioning and closeout. The Project Manager will ensure that the production of the necessary deliverables takes place with the input and subsequent review of approving stakeholders.

These project management methods have long been utilized by our staff in delivering successful projects, and it is this disciplined approach to project delivery that has allowed our staff to be so effective in the management of the Authority's projects. While working at the Port Authority currently, and under the proposed contract, our staff will follow all Authority procedures and protocols to ensure project delivery success.

Task B – Project Implementation Services

The preparation and development of the Project Management Plan is one of the most important elements of a successful project. Once the Plan has been completed, reviewed and approved by the Authority's Program Director and other key stakeholders, it must be communicated to all project participants. The steps that the Project Manager will then take to implement the project will include the following: Kick-off and Progress Meetings.

The Project Manager will schedule the initial project kick-off meeting with the project team and set the stage for development of the Project Definition Statement (PDS) by the LEA and the engineering design team using the elements developed in the Project Management Plan. All actions and activities performed by the project team will be as prescribed in the Plan, and any deviations or adjustments will be measured against it.

The Project Manager will discuss the process and procedures to be followed during the execution of the project, including communication protocols among team members and stakeholders. Once developed and approved, particular attention will be given to identification and communication of variances from the PDS in scope, schedule and budget.

Consultant Coordination

We are experienced in managing projects for the Authority in which consultants perform the work as an extension of staff. Although state-of-the-art technological communication tools are utilized extensively, regular face-to-face meetings with consultants and staff are held to ensure that up-to-date information is made available as planned and is being utilized to meet the project goals.

Coordinate Bidding and Award of Construction Contracts

An important element of the design phase is the bidding and awarding of the construction contract. Many steps must be successfully completed to reach this stage. Among the key tasks that the Project Manager must perform and coordinate include:

- Preparation of a procurement strategy that is appropriate for the project, such as whether to perform the project under a Work Order Contract,CM/GC contracts, publicly advertise, or perform a prequalification of bidders. More global procurement option decisions, such as design-build, will be made early in the project in order to define the appropriate level of design to be performed.
- Ensuring that bidders receive all bid documents on the date advertised and subsequent questions, if any, are answered and Addenda are issued on a timely basis.
- Evaluation of bids against the Engineer's Estimate to determine variances and the ability of the contractor to perform the work at the bid price. This will support a recommendation to award the contract on the basis of the contractor's responsibility and understanding of the contract requirements.
- Preparation of project briefing materials for items that are required to be Board authorized. The brief will contain a summary of supporting documentation and financial information to show a project's scope of work, basis of need, budget information, Engineer's Estimate Summary, bid analysis, M/WBE analysis, prior authorizations and Draft Authorization documents such as Policy Review Memorandum of Justification (PRMJ), Memorandum of Justification (MJ), or Memorandum of Authorization (MA) as appropriate.

Post Award Services

The Project Manager will be responsible to coordinate with the Construction Management Division (CMD) of the Engineering Department immediately upon award of the contract to ensure a timely pre-construction meeting with the contractor.

During this phase the Project Manager will attend regular progress meetings with the contractor and will ensure the timely review of shop drawings, Requests for Information (RFI), Post Award Contract Changes (PACC), act as liaison with facility operations and manage third party relations with other non-Authority stakeholders.

Task C – Project Monitoring and Reporting Services

Critical elements of the Project Management Plan are the communications protocols that establish the methods of sharing and providing information among the project team, Authority senior management staff and other project stakeholders.

Reporting

The Project Manager must be vigilant and informed about the progress of the project team through email, regularly scheduled progress meetings, memoranda and telephone calls. This continuous exchange and the review of objective data provided by project controls staff such as schedules, budget and cost control data, will provide the basis for analyzing the status of the project progress and creating effective reports under the Authority's Monthly Capital Performance Reports (MCPR) for each capital project.

This monthly executive summary report provides Authority senior management with the overall status of the project, monthly project accomplishments, current issues, fundamental variance analysis of budget and schedule and planned mitigation actions.

Schedule Management

AECOM employs the use of Primavera scheduling to serve as each project's controlling document. Using the latest release of Primavera and Contract Manager Software, we prepare and update the schedule with links to all project activities, which identify tasks and milestones for major actions. These schedules can be cost and manpower loaded to assist in total project planning. This makes our Project Managers well-suited to work with the Authority's Present and Planned Workload (PPW) and Primavera systems to establish and maintain the project design and construction milestone schedules.

Cost Control and Reporting

AECOM Project Managers understand cost control reporting is the key to managing the overall cost of a project. The MCPR system used by the Authority not only identifies costs to date, but forecasts the costs at the end of the project, including any identified contingency funds, approved changes, etc. In Primavera, budgets are monitored on a regular basis against expenditures. These reports will enable our Project Managers to measure progress against the cost and schedule data. Earned value is determined and reported to the Program Directors.

The Project Manger monitors all costs of the project including soft costs, payments to contractors and contingency. This helps control costs against the approved project budget.

Task D - Program Level Management Services

Under the current project management agreement, AECOM has provided a highly dedicated and experienced team of Project Managers for the JFK Bay Runway Reconstruction Program. This unique program assignment utilized our team to develop the program-level schedules for the construction services and the activities of the many stakeholders supporting the program. Our Project Managers were very successful in coordinating the activities of the stakeholders to support the aggressive contractor schedule with continuous coordination and communication among the project team. A program newsletter was developed for the project team, including senior Authority staff, to keep everyone fully informed of the schedule, achievements, and to give a look ahead on the program. This program is the best example of how high-profile, mission-critical projects should be managed to ensure success for all participants. AECOM looks forward to future opportunities to provide fully integrated project teams for key projects and programs.

M/WBE Subcontractor Goals

The Port Authority remains a leader in its set-aside goals and its policy of offering participation opportunities for minority and women-owned business enterprises in all procurements. Our on-site Project Managers are uniquely familiar with the set-aside goals in construction contracts.

As part of their responsibility during the formation of the contract documents for a project, each Project Manager, in consultation with the Construction Management Division, will prepare an analysis of the subcontracting goals that can be achieved in each construction contract. Once approved, these goals become part of the contract that the low bidder must achieve on a good faith basis.

Task E - Program Management Services

AECOM has capably provided program management support staff to the Authority on-site during the current As-Needed contract. Members of our staff have provided support for the preparation of materials necessary for Board of Commissioners meetings, such as PowerPoint presentations, Policy Review Memorandum of Justifications (PRMJs) Memorandum of Justification (MJs) and Memorandum of Authorizations (MAs), analyses of contract awards and construction in place (CIP) data and preparation of performance metrics. This information is used to communicate overall Capital Plan performance to key stakeholders in the Authority.

Bidability/Constructability Reviews

Bidability and constructability reviews are critical components in the process of building projects. The objectives of such reviews are to: review the contract documents that will be provided to the bidders to determine if the design is well coordinated between the various design disciplines; assure that the scope of the contract is clearly defined; establish that the contractor can build the project as designed; look for potential procurement problems, such as material availability; and review the site availability, staging requirements and operational restrictions, which may impact the bids and subsequent execution of the work. AECOM can provide experienced Senior Program and Construction Managers to perform such reviews on an independent basis for projects critical to the Authority.

Drawings of Record (DOR)

The Authority has made a major commitment to document the final construction, as constructed for future use in new projects and by operations and maintenance staff at the various facilities. The task of ensuring that DORs are prepared is the responsibility of the Project Manager, working in concert with the Construction Manager and the Design Engineer. In accordance with the latest Authority policy, the last set of Contract Drawings, as revised by the last Post Award Contract Change (PACC), shall be considered the Drawings of Record. As stated earlier, the Project Manager participates in this process by ensuring that all changes are documented with proper PACCs, including the distribution of properly authenticated revised drawings. This set, along with Shop Drawings and Utility Record Drawings, complete the DORs. Once the DORs are prepared, they are electronically archived for future use by the Engineering Management Services Division (EMSD) of the Engineering Department.

Project Management Manual

Over the last four years, with the evolution of the project management at the Authority into its current format in direct support of the Authority's facilities, the role and the protocols of project managers have changed. So too has the Project Management Manual, as the latest new draft nears completion. The purpose of this document will be to provide a consistent standard for the project management practice that the Authority will follow. It represents the body of knowledge that all Project Managers can easily follow during the performance of their respective projects from inception to completion.

Given the tremendous organizational changes that have taken place to streamline organizational structures, processes and procedures aimed at ensuring greater effectiveness in the delivery of the Capital Plan, this updated document will communicate the new standard of practice to Project Managers. AECOM can assist in the updating of the Project Management Manual with senior project and program managers. Our approach would be to utilize an interactive process of meetings, interviews, procedures, documentation, review, and final editing of the manual under the direction of the senior project management leadership.

Document Control

The Authority has adopted Contract Manager as the Document Control system. The on-site AECOM Project Managers are familiar with this system and utilize it on their respective projects. In addition, our subconsultants are all familiar with Contract Manager and also have supported the Authority with this system. To be fully responsive to the Authority's requests for highly qualified Contract Manager experts, we have assembled a team of five subconsultants to quickly provide these staff members.

In addition, the Authority has been utilizing the in-house Livelink technology infrastructure to capture information and documents developed for select projects and programs such as the Security Capital, Goethals Bridge Replacement and WTC Programs. The Livelink application integrates document management, search capabilities and project collaboration to give project team members the necessary information to perform their work and make timely and informed decisions. This web-based work environment allows project participants to find information, work together, share information, prepare documents, submit them for the required review and approval process and make them accessible to anyone that has been granted appropriate permission

Regardless of which system the Authority deems to be the most appropriate to implement, AECOM Project Managers have experience and knowledge in the utilization of both systems.

Project Control

Project Control by timely and effective management action consists of three basic elements: schedule control, cost control, and document control. AECOM has developed a Project Control Manual for specific use on capital projects and programs. The manual includes detailed procedures covering these three basic elements and other control functions required for the successful completion of projects.

Technical Presentation and External Communications

AECOM has provided program support staff for the preparation of business and technical presentations for external and internal use by all levels of staff including the Board of Commissioners. Our staff is skilled in developing and preparing presentations using PowerPoint, the accepted standard medium for internal and external communications.

To further assist the Authority in interagency coordination, the AECOM team brings a thorough understanding of Authority, State, City and Local Agencies and utility company procedures and permit processes. We have worked very closely with these agencies and understand the importance of coordinating and communicating with them frequently during the life of a project.

Project Management Training

The Authority has made a significant commitment to the training and development of Project Managers. AECOM Project Managers that are currently on-site have participated in these training sessions to ensure that their level of knowledge and understanding is consistent with the expectations of senior project management staff.

AECOM can provide assistance to the Authority in the structuring of ongoing training and development programs, providing instructors and training programs in select areas of interest. We can organize seminars and webinars on diverse topics and "lessons learned" from our portfolio of national and international projects. This approach will facilitate the procurement of external training services and also allow the transfer of knowledge to Authority staff.

Quality Control/Quality Assurance

AECOM has a longstanding commitment to quality; it has been part of the company's legacy for more than 70 years. This commitment is demonstrated by the company's recent certification to the new ISO 9001:2000 quality management standard. AECOM has been certified as an ISO-9001:2000 firm and has company-wide procedures in place to monitor and audit quality and to ensure consistent and correct work product preparation and archiving. All of our Project Managers have had trainings for project quality controls. With the continual training and compliance practice, the AECOM Team will assure that the PANYNJ's Quality Procedures are followed for the particular projects they will be managing.

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RFP No. 22388

Section F. Hourly Rates & Multipliers

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Firm	Home Office			
	Direct Labor	Overhead	Profit	Multiplier
AECOM	1.00	1.36	7.5%	2.54
Tishman[1]	1.00	1.3936	0.2394 (10%)	2.63
Ellana[2]	1.00	2.09	0.25 (12%)	2.34
G2[3]	1.00	1.00	0.20 (10%)	2.20
Industria[4]	1.00	1.20	0.20 (9%)	2.40
NIA[5]	1.00	1.247	0.152 (6.75%)	2.399

Firm	Field Office			
	Direct Labor	Overhead	Profit	Multiplier
AECOM	1.00	1.03	7.5%	2.18
Tishman[1]	1.00	1.3057	0.20 (0.10%)	2.20
Ellana[2]	1.00	1.80	0.22 (12%)	2.02
G2[3]	1.00	0.95	0.20 (10%)	2.15
Industria[4]	1.00	1.09	0.19 (9%)	2.28
NIA[5]	1.00	1.09	0.123 (5.90%)	2.213

Please note:

AECOM is committed to proving the highest level of service to Port Authority at the most competitive price. AECOMs current home office overhead is 158 percent and profit of 10 percent. Due to the current economic conditions and funding situation for capital projects at Port Authority, AECOM is lowering its overhead to 136 percent and profit to 7.5 percent for this contract engagement with a resulting multiplier of 2.54. We look forward to providing high quality staff and services to Port Authority at this very competitive rate.

Likewise for our field multiplier, our current overhead is 118 percent and profit of 10 percent. AECOM is lowering its overhead to 103 percent and profit of 7.5 percent

Multipliers of AECOM, Tishman, Ellana, G2, Industria, and NIA, include vacation, holiday, sick pay, worker's compensation, insurance, office rent, and profit.

[1]: Tishman Construction | [2]: Ellana, Inc. (WBE) | [3]: G2 Project Planning, Inc. (WBE) | [4]: Industria, Inc. (MBE) | [5]: NIA Technologies Corporation (MBE)

Hourly Rates

Name		Project Role	Firm	Hourly Rates
AECOM				
Azzaro, John, PE	PE	Officer-in-Charge	AECOM	*
Pierce, Kevin, PE	PE	Program Coordinator	AECOM	$225.00**
Niro, Achille, PE	PE	QA/QC	AECOM	$225.00**
Quaranta, Thomas		Project Manager	AECOM	$225.00**
Adams, Paul	PE	Project Manager	AECOM	$100.70
Allerdings, Jerry	PE	Project Manager	AECOM	$67.90
Alston, Gerald		Project Manager	AECOM	$41.90
Chong, Sue Anne		Project Manager	AECOM	$44.92
Bobetsky, Kenneth	PE	Project Manager	AECOM	$74.10
Benosky, Christopher	PE	Project Manager	AECOM	$79.20
Chu, Francis	PE	Project Manager	AECOM	$73.94
Conger, Dave	PE	Project Manager	AECOM	$68.98
Eilinger , Fred	PE	Project Manager	AECOM	$66.15
Figuereo, Indhira		Project Manager	AECOM	$46.22
Garbolski, Michael	PE	Project Manager	AECOM	$56.60
Giovanelli , Paul	PE	Project Manager	AECOM	$78.23
Grande, Frank	PE	Project Manager	AECOM	$75.51
Greenberg, George	PE	Project Manager	AECOM	$59.17
Hammond, Edward	PE	Project Manager	AECOM	$69.30
Hand, Joe	AIA	Project Manager	AECOM	$74.97
Hapkiewicz, John	PE	Project Manager	AECOM	$56.61
Kekish, Borys	PE	Project Manager	AECOM	$70.29
Lai, Chee	PE	Project Manager	AECOM	$79.80
Lavallee, Andrew	RLA	Project Manager	AECOM	$59.50
Linkowski, Mark	EIT	Project Manager	AECOM	$48.62
Marcantonio, Elizabeth	PE	Project Manager	AECOM	$38.85
Matarazzo, Joe	PE	Project Manager	AECOM	$70.22
Mazumdar, Azim	PE	Project Manager	AECOM	$65.02

*: As Officer-in-Charge, will not be billing on project.

**: Billing Rate.

Meister, William	PE	Project Manager	AECOM	$73.08
Minkley, Mark	RLA	Project Manager	AECOM	$49.34
Murphy, Alexander (Sandy)	PE	Project Manager	AECOM	$70.74
Parnes, Jerry	PE	Project Manager	AECOM	$84.12
Peraza, Ana	PE	Project Manager	AECOM	$47.16
Quast, Donald	PE	Project Manager	AECOM	$81.43
Rondinello, Lou	PE	Project Manager	AECOM	$73.89
Rosciglione, Antonio	AIA	Project Manager	AECOM	$54.96
Schneidt, Len	PE	Project Manager	AECOM	$77.53
VanSickels, James	PE	Project Manager	AECOM	$70.46
Woo, Tom	PE	Project Manager	AECOM	$73.53
Zhao, Shaoling	PE	Project Manager	AECOM	$84.30
Tishman Construction				
Calabrese, Jennifer		Estimator (In-house)	Tishman	$61.62
DaCruz, Rosana		Estimator (In-house)	Tishman	$51.35
Rodriguez, Frank		Project Manager	Tishman	$85.65
Schmitt, Gary		Project Manager	Tishman	$62.32
Seliga, Chris		Scheduling (In-house)	Tishman	$91.03
Ellana, Inc.				
Ahuja, Rohit		Senior Scheduler	Ellana	$62.50
Chi,n Henry		Senior Project Cost Manager	Ellana	$72.11
Fitzer, Walter		Chief MEP Estimator	Ellana	$69.71
G2 Project Planning				
Glavasich, Christine		Sr. Estimator (General Construction)/ Scheduler	G2 Project Planning	$45.00
Harlow, Brett		Sr. Estimator - Mechanical	G2 Project Planning	$45.00
Mainella, Michael		Sr. Estimator – Electrical	G2 Project Planning	$45.00
Industria				
Collins, Christine		Assist Project Manage	Industria	$36.00
Daniels, Sheketa		Sr. Administrative Assistant	Industria	$30.00
Madonia, Joseph		Sr. Project Manager	Industria	$78.00
Quinn, Sharon		Project Manager	Industria	$48.00

Wittrock, Kathleen		Sr. Administrative Assistant	Industria	$28.00
NIA Technologies Corporation				
Fox, Linda		Contract Management Specialist	NIA Tech	$30.00
Fraser, Desiree		Contract Management Specialist	NIA Tech	$31.00
Smith Jim		Scheduler/Contract Management Specialist	NIA Tech	$38.00

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Section G. W/MBE Participation

Section G. M/WBE Participation

AECOM has a tradition of encouraging W/MBE participation. We selected the following subconsultants not only based on their M/WBE status but also their technical merit and a long history of collaborating with AECOM in serving the Port Authority of New York and New Jersey.

Ellana, Inc. (WBE)

Incorporated in 1998, ELLANA, Inc. is a certified Woman's Business Enterprise National Council (WBENC), Women-owned Business Enterprise (WBE) and Disadvantaged Business Enterprise (DBE) construction consultant firm that provides a suite of design and construction phase services as a primary consultant to owners/developers, as well as a subconsultant to design teams and construction mangers/general contractors. ELLANA brings extensive cost estimating experience for on-call projects such as PANYNJ, NYCSCA, NYCHA, NYSOGS, and DASNY.

The firm's PANYNJ project experience includes:

- PANYNJ World Trade Center Tower One, New York, NY
- PANYNJ, Architectural, Engineering, and Interior Design Services for Offices at 4 World Trade Center, New York, NY
- PANYNJ, TWA Building 60 Interior Adaptive Reuse/ Exterior Improvements JFK International Airport, Queens, NY
- PANYNJ, World Trade Center Vehicle Security Center and Tour Bus Parking Facility, New York, NY
- PANYNJ, USAir Terminal at LaGuardia Airport, Queens, NY
- PANYNJ, New International Arrivals Building/ Terminal Four at JFK International Airport, Queens, NY
- PANYNJ/Redevelopment of jetBlue Terminal, JFK International Airport, Queens, NY

The firm's on-call project experience includes:

- National September 11 Memorial & Museum at the World Trade Center, New York, NY
- NYCSCA, On-Call Cost Estimating Services Contract, New York, NY
- NYSOGS, Life Safety Services Term Contract, State of New York
- NYCHA, Cost Estimating Requirements Contract, New York, NY
- DASNY, Architectural/Engineering Term Contract, New York State
- NYSOGS, Term Contract to Review Fire Safety Program Standards and Requirements, Various DCS Facilities, Statewide

The firm's representative detailed project experience includes:

PANYNJ, Newark Liberty International Airport A/E Services, Terminal B Modifications

Client: URS Corporation
Contact Person: Michael R. Collins, AIA
Title: Project Manager
Phone/email: [redacted]
Project Start/End: 2008-2009
Project Cost: $5 Million

ELLANA provided CPM scheduling services for modifications to Terminal B at Newark Liberty International Airport. Services include Stage III - Final Design and Contract Documents and Stage IV – Post Award Services for the new mid and upper levels meter/greeter areas and related infrastructure. Work includes conversion of the domestic baggage claim hall to a domestic ticketing hall; improvements to the meter/greeter and Interline baggage re-check areas; relocation of existing ticket counters; and the addition of a new mezzanine level, among other tasks.

PANYNJ, World Trade Center Vehicle Security Center and Tour Bus Parking Facility

Client: Tishman Construction Company
Contact Person: Douglas Troast
Title: Project Director
Phone/email: [redacted]
Project Start/End: 2009-2011
Project Cost: Confidential

ELLANA is providing construction cost estimating services for the four story 295,700sf vehicle and tour bus parking and screening facility. The structure which is a mix of structural steel and concrete on deck with cast in place walls is being built to the standards for all the buildings at the WTC site. One of the tasks we were assigned with is to keep the overall cost split into East and West because the Deutsche Bank occupies half of the site and construction cannot get started until the building is finally demolished. Due to the complex nature of the project, the estimating team has spent extra effort in coordinating the trades and various design aspects of the project as the design has evolved. In addition, when complete the Project site will be landscaped to become Liberty Park, since the majority of the building is below grade, and contained within the WTC "bathtub".

PANYNJ, Headquarters at 4 WTC

Client: Studios Architecture
Contact Person: Adrianne Cartelli
Title: Associate Principal
Phone/email: [redacted]
Project Start/End: 2008-2012
Project Cost: Confidential

ELLANA is responsible for the project cost estimating and scheduling services for the new corporate offices of the Port Authority of NY & NJ, consolidating about 1,700 Port Authority staff from multiple buildings in Manhattan and New Jersey in one central location (approximately 450,000sf) at 150 Greenwich Street in Manhattan. The offices will cover approximately 15 to 20 contiguous floors, 1 podium floor (approximately 35,000 square feet located on the retail level to include a cafeteria, conference center, and an emergency command post), and 1/3 of the subgrade space in the new World Trade Center - Tower 4 Building. In compliance with current PANYNJ sustainability objectives all office buildings will comply with the World Trade Center Sustainable Guidelines, leading to a LEED Gold rating.

G2 Project Planning(WBE)

G2 Project Planning Inc. is a certified Women's Business Enterprise (WBE) that provides high quality and responsive Construction Cost Management Services to Architects, Engineers, Developers, Owners and Construction Contractors. The firm's experience and expertise in cost planning, management and consulting includes projects in the healthcare, transit and transportation, corporate, laboratory, educational, and judicial/Courthouse sectors.

The firm's clients and project experience include:

- Amtrak: Arrivals Concourse Extension, Washington Union Terminal, Washington, D.C.
- NYCDOT: St. George Ferry Terminal Intermodal Station Rehabilitation, Staten Island, New York
- MTA/NYC Transit:
  - Manhattan East Side Transit Alternatives Study (2nd Avenue Subway), Phase 2
  - Rehabilitation of the Times Square Subway Station
  - Rehabilitation of Three Elevated Stations on the Jerome Ave. Line, Bronx, NY
  - Rehabilitation of the 14th Street and 7th Avenue Subway, New York, NY
  - Columbus Circle Stations, Hearst Corporation ADA and Circulation Improvements
  - 3-Year Indefinite Quantity Contract, Functional Planning and Engineering for Miscellaneous Engineering Projects
- MTA/Metro-North Railroad:
  - Grand Central Terminal Kit Room Expansion Site Assessment – New Office Space within Grand Central Terminal
  - Upper Harlem Line Station Improvements
  - New Parking at West of Hudson Stations
  - New Parking at Irvington, Greystone and Sputen Duyvil

- Grand Central Terminal, Elevator Upgrade

- New Penn Station/James Farley Building Restoration/New Penn Station
- Grand Central Terminal Restoration Project, New York, New York – Change Order Review on behalf of Owner and Developer (MTA/ Metro-North Railroad and Jones Lang LaSalle)

The firm's representative detailed project experience includes:

NYCT, Rehabilitation of the Times Square Shuttle Station

Client: NYCT – DMJM+Harris/Gruzen
Contact: Person:Robert Pinghero
Title: Vice President
Phone/email: [redacted]
Project Start/End: 2005 - 2007
Project Cost:$90 Million

This highly complex project included extensive structural reconstruction, including removal and relocation of existing columns at Times Square, removal of the existing roof structure up to street level, construction of significant temporary structures, new subway walls, new street stairs in new locations, as well extensive work associated with Maintenance and Protection of Traffic. Rehabilitation of the Times Square Shuttle Station at 42nd Street in Mahattan. Project includes major structural modifications to the station.

LIRR, Bill of Materials for the Babylon Yards Reconfiguration

Client: LIRR – Edwards & Kelcey(Jacobs)
Contact Person: Michael Kennedy
Title: Vice President
Phone/email: [redacted]
Project Start/End: 2004-2006
Project Cost: $15 Million

The Babylon Yards Reconfiguration project required the preparation of a Bill of Materials (BOM) for general construction work (site work) as well as new trackwork, signals, and general electrical.

NYCT, Rehabilitation of Three Stations on the Jerome Avenue Line

Client: NYCT – HOK
Contact Person: D. Kent Turner
Title: Vice President
Phone/email: [redacted]
Project Start/End: 2004-2005
Project Cost:$45 million

This project was for the rehabilitation of three elevated subway stations on the Jerome Avenue Line in The Bronx. Stations included were 167th Street, Fordham Road and Woodlawn Avenue. Project included recladding of existing stations, structural enhancements and MEP upgrades.

Comprehensive Redevelopment, Phases I, II, III and IV, Kings County Hospital Center

Client: DASNY/SOM
Contact Person: Gaetano Punzi
Title: Vice President
Phone/email: [redacted]
Project Start/End: 2000-2004
Project Cost:$150 Million

Project Manager and General Construction estimating for this multi-phase rehabilitation of Kings County Hospital in Brooklyn, New York. Phase I was the construction of a new 250 bed patient tower; Phase II was a new diagnostic and treatment facility; Phase III was the conversion of existing office space into an ambulatory care facility; Phase IV is a new Mental Health Facility. From Phases I through III, G2 worked with the architect in developing design phase estimates. At each design phase of each project, G2 was required to a comprehensive reconciliation between their estimate and estimates prepared by the Construction Manager. In Phase IV, the Mental Health Facility, G2 was retained by the New York City Office of Management and Budget to prepare an independent estimate as a check on the architect's estimate. G2 also provided cost estimating services for the 40-hour VE workshop, costing out alternatives to improve the project developed by an outside team of experts.

Industria, Inc. (MBE)

Celebrating its 17th Anniversary, Industria, a PANYNJ certified MBE, provides professional General Contracting and Construction Management Services for clients such as PANYNJ, Midway International and O'Hare International Airports, Chicago Public Schools, Chicago Park District, Chicago Housing Authority, and Chicago Transit Authority.

The firm's expertise includes: coordinating the project staff and on-site activities; organizing and overseeing job-site construction administration and supervision; managing the procurement of contractors and suppliers; managing schedules, quality of work, coordination of trades and payment requests; developing, monitoring, updating and communicating the schedule and its progress; establishing and maintaining communication of project with owner, architect and contractors; applying construction management tools and techniques for successful project completion; and conducting program management tasks regarding progress documentation and document control.

The firm's representative project experience includes:

Terminal B Modernization, Newark Liberty International Airport

Client: PANYNJ
Contact Person: Jim Heitmann
Title: Manager of Physical Plant & Infrastructures
Phone/email: (973) 961-6206; jheitmann@panynj.gov
Project Start/End: 2007-2010
Project Cost: $200 Million

The work provides for construction of a new domestic claim hall with four (4) baggage carousels and passenger amenities, 2-new 4-stop elevators, five (5) new escalators, and reconstruction of the North & South Power Substations supported each by new 2.8 MW Generators. The work includes all new architectural finishes, mechanical, electrical, plumbing, HVAC and fire sprinkler/protection upgrades in the Lowe Level Claim Hall, and 18 check-in counter positions at the B2 lower level core.

Three connectors were expanded to accommodate four (4) new TSA Passenger Screening Lanes, post concessions at each connector, and space for future airline lounges at the INS Level of the B2 Connector. The work includes all new MEP upgrades, an etched glass panel wall system (interior), backlit onyx walls and skylights at various locations.

The Terminal B Roadway System was reconstructed to accommodate the Terminal B conversion from a 2 level to three level terminal. The work included the reconstruction of a new bridge (N-7), and widening and reconstruction of another bridge (N-8) and associated ramps to provide an International Departures Level (top level), Domestic Departures (Mid Level) and new at-grade Lower Level Arrivals to accommodate the new Baggage Claim Level for expanded use and increased capacity/higher level of service for Terminal B. The work included all new infrastructure upgrades, 2 Taxi-Booth operations, 500 foot long canopy increasing the lane capacity from 5 lanes to 9 lanes, signature landscape and irrigation system.

Newark Redevelopment Program/Continental Global, Newark Liberty International Airport

Client: Port Authority of NY & NJ
Contact Person: Jon Weston
Title: Deputy Director
Phone/email: (212) 435-3840; jweston@panynj.gov
Project Start/End: 1998-2003
Project Cost: $275 Million

The overall contract consisted of two (2) parking structures (Terminal C Parking Structure, P-4 Parking Structure), Monorail Station P-4 expansion, and an entire reconstruction and expansion of the Terminal C Frontage Roadway System that was expanded with additional curb frontage and modified to accommodate the conversion of a two level terminal into a three level Terminal C. The work was highly complex in terms of staging and phasing to construct all portions of new work, while keeping pedestrian traffic, operational on the frontage of the existing terminal and parking

areasl, during the 4 to 5 years of construction. The work included all new infrastructure systems/utilities servicing the new state of the art parking facilities and frontage roads, lighting, hardscape/landscape, etc.

Newark Redevelopment Program/ Continental Global, Newark Liberty International Airport

Client: PANYNJ
Contact Person: Herman Ret
Title: Manager of Electrical Maintenance
Phone/email: (973) 961-6144; hret@panynj.gov
Project Start/End: 2000-2007

Provided licensed electrical senior linesman for high tension power sources working as a consultant to the PA Electrical Maintenance Division. Work. The work included construction inspections and consulting on airside power switchhouses, terminal switchgear, new substation inspection and approval/turnover and acceptance on several airport facilities, including all three terminals, parking structures and Monorail Stations.

NIA Technologies Corporation(WBE)

Nia Technologies is a Port Authority certified MBE Company located in Mount Arlington, New Jersey. The firm provides support services in the following areas:

- Computer Network Administration and Computer Desktop Support
- Information Technology Consulting
- Applications Specialists in AutoCAD, Primavera Scheduler and Expedition
- Document Control
- Telecommunications Specialists
- Construction Management Support
- Budget Control Support

NIA Technologies Corporation is proud to have contributed to the Port Authority since its inception in various support roles including technology services, Primavera implementation and server support services as well as application specialization and document distribution and support.

NIA's PANYNJ experience includes:

- Newark AirTrain Project
- JFK AirTrain and Jamaica Station Projects
- Engineering Departments TB&T
- PATH
- NJ Airports
- Security Program
- Downtown Restoration Program
- NY Airports

AECOM

Performance of Expert Professional
Project Management Services
as Requested on a "Call-In" Basis
During 2011, 2012, 2013 and 2014
RFP No. 22388

Section H. Affiliates

Section H. Affiliates

Name of Submitting Vendor: AECOM USA, Inc.

Submitting Vendor's EIN/SSN/TIN: 13-5511947

Submitting Vendor's Parent Company: AECOM Technical Services, Inc.
Type of Business: For Profit
EIN/SSN/TIN: [redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071
Main telephone number: (213) 593-8000
Main fax number: (213) 593-8730

Submitting Vendor's Additional Affiliates

AECOM Services, Inc.
For Profit
[redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

AECOM, Inc.
For Profit
[redacted]
Address: Two Technology Park Drive, Westford, MA 01886

EDAW
For Profit
[redacted]
Address: 150 Chestnut Street, San Francisco, CA 94111

Economic Research Associates (California)
For Profit
[redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Earth Tech/Archer Western, LLC.
For Profit
[redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Earth Tech WE Holding, Inc. (Delaware)
For Profit
[redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Cass Water Engineer, Inc. (Delaware)
For Profit
[redacted]
Address: 515 South Flower Street, Los Angeles, CA 90071

Tishman Construction Corporation
For Profit
[redacted]
Address: 666 Fifth Ave, 38th Floor
New York, NY 10103

AECOM

Performance of Expert Professional
Project Management Services
as Requested on a "Call-In" Basis
During 2011, 2012, 2013 and 2014
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Section I. Conflict of Interest

Section I. Conflict of Interest

AECOM and our proposed project staff do not have, and will not give the appearance of, a possible conflict of interest for RFP No. 22388 for the Performance for Expert Professional Program Management Services as Requested on a "Call-In" Basis During 2011, 2012, 2013, and 2014.

AECOM

Performance of Expert Professional
Project Management Services
as Requested on a "Call-In" Basis
During 2011, 2012, 2013 and 2014
RFP No. 22388

Section J. Contract Exceptions

Section J. Contract Exceptions

October 21, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010

Attention: RFP Custodian

Re: Performance for Expert Professional Program Management Services As Requested On a "call-in" Basis During 2011, 2012, 2013, 2014, RFP No. 22388

Dear Sir/Madam:

Per Article II(J) SUBMISSION REQUIRMENTS of the subject RFP, AECOM respectfully requests the Port Authority of New York and New Jersey consider the following revisions to the standard agreement terms and conditions:

1. Article 6 – As professionals, we perform our services according to a standard of care. We request that this standard of care be included in the agreement as follows: "Notwithstanding the foregoing, in the performance of its professional services, Consultant will use that degree of care and skill ordinarily exercised under similar conditions in similar localities and no other warranties, express or implied, are made or intended by Consultant."

2. Article 16 – Since the Authority will own all documents or materials prepared or compiled under this contract, as well as have the right to use or permit such documents and materials for any purpose it sees fit, the following language is requested regarding such future use :"Any reuse of Consultant prepared documents, except for the specific purpose intended hereunder, will be at the Authority's sole risk and without liability or legal exposure to Consultant or its subconsultants." after the first sentence.

Very truly yours,
AECOM USA, Inc.

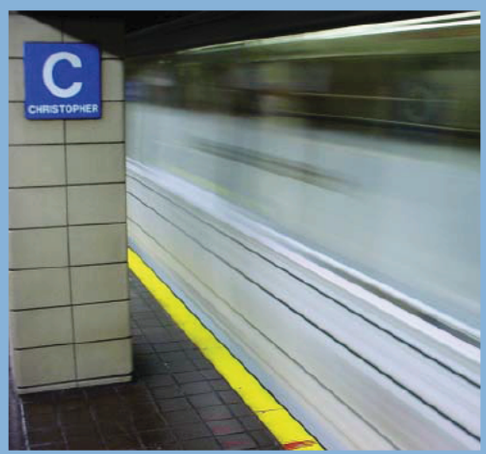
John Azzaro, PE
Vice President

About AECOM

About AECOM
AECOM is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 51,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in more than 100 countries and had revenue of $6.3 billion during the 12-month period ended June 30, 2010. More information on AECOM and its services can be found at www.aecom.com.

AECOM USA, Inc.
605 Third Avenue
New York, NY 10158
212.973.2900

www.aecom.com



Proposal for the Performance of Expert Project Management Services as Requested on a Call-In Basis during 2011, 2012, 2013 and 2014

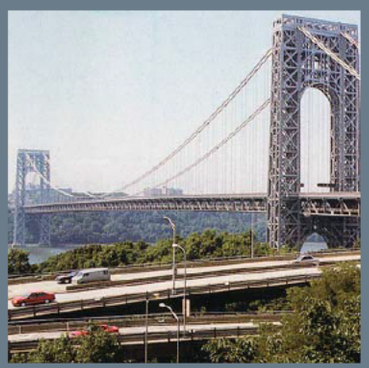
RFP #22388

Submitted to:
Port Authority of
New York and New Jersey

Submitted by:
HNTB New York Engineering & Architecture, PC
An affiliate of HNTB Corporation

October 21, 2010

HNTB



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October 21, 2010
The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010
ATTN: RFP Custodian

Re: Proposal for Performance of Expert Professional Project Management Services as Requested on a "Call-in" Basis During 2011, 2012, 2013 and 2014 – RFP #22388

RFP Custodian:

To best serve the Port Authority of New York and New Jersey (the Authority) on your Project Management Call-in agreement, you need an experienced team that has intimate knowledge of your facilities, extensive experience on large-scale program management contracts, and brings local success with on-call contracts. **The HNTB Team is that team.** We will apply our successful project experience and valuable lessons learned to address the goals of this contract. *Specifically, there are three key benefits to selecting HNTB:*

- **Experienced Project Director. Project Director Phil Collin, PE,** will apply his 21 years of experience by being fully engaged, responsive and focused on the best interest of the Authority. Phil leads HNTB's Program Controls and Construction Management Department in New York. He has worked on many of the region's most critical infrastructure projects, such as New Jersey Turnpike Authority Secaucus Interchange, the MTA – New York City Transit's Times Square Station Rehabilitation, and the MTA – Bridges and Tunnels' Robert F. Kennedy (Triborough) Bridge Rehabilitation (TB-63). In addition, Phil will be supported by a team of seasoned program and project managers. **We are committed to providing the Authority with the right team of experts that can successfully deliver comprehensive project management services to meet your goals.**

- **National Experience in the Program Management of Major Facilities.** HNTB is one of the nation's preferred providers of program management services to major transportation agencies. Our key staff has provided comprehensive program management and project implementation services on billion-dollar capital improvement programs. HNTB has provided these services on numerous large-scale program management projects, such as the $2 billion New Jersey Turnpike Interchange 6 to 9 Widening Program, the $6.3 billion Illinois State Toll Highway Authority Program Management and Project Controls Program, and the $7 billion North Texas Tollway Authority Program Management Office/General Engineering Contract, just to name a few. For *Engineering News-Record's* annual listing of the Top 500 Design Firms, HNTB is consistently ranked in the top ten in each of the separate categories of mass transit and rail, airports and bridges – all services lines relevant to your project. **Our team will apply our national program management, reporting, asset management and project control expertise to provide you with the most comprehensive program management service – ultimately saving you time and money.**

- **Extensive Authority Experience.** HNTB has held many call-in contracts with the Authority, such as the Call-in Security Improvements at Authority Facilities, Civil/Rail Call-in and Structural Call-in, and has a thorough understanding of your processes, procedures, requirements and standards. Our staff has worked extensively on the PATH, World Trade Center, the Lincoln Tunnel approaches, as well as Goethals, Bayonne and George Washington Bridges. This means that there is virtually no learning curve for the technical team, from engineer to CAD technician, who have used Authority design standards, CAD standards, and technical specifications on previous assignments. **Our combination of experience on similar projects and knowledge of your procedures enables us to provide you with responsive services and solutions that meet your expectations.**

Additionally, *Roads & Bridges'* August 2010 issue ranked **HNTB as one of the the top three "go-to" firms in five of six categories including road and highway, mass transit, bridges, airports, stormwater systems and design-build projects. Among firms delivering mass transit projects, HNTB ranked number one.** HNTB looks forward to continuing our relationship with the Authority and offers you our proven expertise, subject matter experts and intimate knowledge that will prove essential during any and all identified task orders. Should you have any questions, please do not hesitate to contact me or Project Director Phil Collin, PE, at (212) 594-9717.

Respectfully submitted,
HNTB New York Engineering & Architecture, PC
An affiliate of HNTB Corporation

Thomas Potts, PE
Vice President/Principal-in-Charge

TABLE OF CONTENTS

A. Attachment B

B. Attachment C

C. Qualifications and Experience of Staff

D. Firm Experience

E. Management Approach

F. Salary and Multipliers

G. M/WBE Participation

H. Firm Affiliates

I. Conflict of Interest

J. Terms and Conditions

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf,* not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

HNTB New York Engineering & Architecture, PC
An affiliate of HNTB Corporation
(Company)

(Signature)

Vice President, Northeast Division
(Title)

10-15-10
(Date)

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DO NOT RETYPE.

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014

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Halcrow, Inc.
(Company)

(Signature)

SENIOR VICE-PRESIDENT
(Title)

OCTOBER 8, 2010
(Date)

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DO NOT RETYPE.

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014 (RFP #22388)

1. Company Name (print or type):

   _____

2. Business Address (to receive mail for this RFP):

   _____

   _____

3. Business Telephone Number: _____
4. Business Fax Number: _____
5. Firm website: _____
6. Federal Employer Identification Number (EIN): [redacted] _____
7. Date (MM/DD/YYYY) Firm was Established: _____/_____/_____
8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   _____

   _____

9. Officer or Principal of Firm and Title:

   _____

10. Name, telephone number, and email address of contact for questions:

    _____

    _____

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☐ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

ATTACHMENT C (continued)

8. Name, Address, and EIN of Affiliates or Subsidiaries

- 1914 Holding Company [redacted] This entity is the ultimate parent of the HNTB Companies. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Holdings Ltd [redacted] This entity is 100% owned by 1914 Holding Company and owns 100% of the following 3 subsidiaries. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Corporation [redacted] This entity is 100% owned by HNTB Holdings Ltd. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB International Corporation [redacted] This entity is 100% owned by HNTB Holdings Ltd. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Design/Build In [redacted] This entity is 100% owned by HNTB Holdings Ltd. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Corporation (a Massachusetts Corporation) [redacted]). This entity is 100% owned by Robert E. Sutton, a shareholder of HNTB New York Engineering & Architecture, PC. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Pennsylvania, Inc. [redacted]). This entity is 50% owned by John G. Finn, a shareholder of HNTB New York Engineering & Architecture, PC. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Alabama Inc. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Arkansas, Inc. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- Howard Needles Tammen & Bergendoff California Architects PC [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Connecticut Architecture, PC [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB District of Columbia Architecture, PC [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB District of Columbia, PC [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Georgia, Inc [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Idaho, PA [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Illinois, Inc. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Indiana, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Iowa, Inc. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Louisiana Architecture, Inc. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Maine, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Maryland, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Michigan, Inc [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Mississippi Architecture, PC [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Montana, Inc [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Nevada, Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB New Jersey Architecture, Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB New York Engineering & Architecture, PC. [redacted] Address: PO Box 412197, Kansas City, MO 64141.
- HNTB New York Architecture, PC [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB North Carolina, PC [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB, PC [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Ohio, Inc. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Oklahoma, PC. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Oregon Architecture, PC. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Rhode Island, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Virginia Architecture, Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Vermont Engineering, PC. [redacted]). Address: PO Box 412197, Kansas City, MO 64141

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014 (RFP #22388)

1. Company Name (print or type):

   Halcrow, Inc.

2. Business Address (to receive mail for this RFP):

   22 Cortlandt St
   New York, NY 10007

3. Business Telephone Number: 212-608-3990

4. Business Fax Number: 212-566-5059

5. Firm website: www.halcrow.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 11 / 18 / 2004

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):
   HPA Engineers, PC, 22 Cortlandt St., New York, NY 10007, EIN 20-1964427;
   Halcrow Engineers, PC, 22 Cortlandt St., New York, NY 10007, EIN 20-1964391

9. Officer or Principal of Firm and Title:

   Michael Della Rocca, President

10. Name, telephone number, and email address of contact for questions:
    Jonathan Goldstick, [redacted]

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

C. QUALIFICATIONS AND EXPERIENCE OF STAFF

THE HNTB TEAM

HNTB is a preferred provider of program management services to major transportation agency clients nationwide. **HNTB's track record as a pioneer in program management assignments** includes services to agencies in New Jersey, Pennsylvania, Washington, Texas, Missouri, Illinois and Minnesota to name just a few. Our expert program management staff continuously takes best practices and lessons learned in the evolution of the industry and applies them to gain time- and cost-efficiencies for our clients. HNTB employs nearly 4,000 professionals in more than 64 locations nationwide, including nearly 400 in the New York/New Jersey metropolitan area. Our resources are more than adequate to complete your on-call projects within your timeframe and budget.

The key to success on any project relies on a team of well qualified staff. The HNTB Team assembled for this 'call-in' project will be led by **Project Director Phil Collin, PE.** Phil brings more than 20 years of experience, including serving as manager for construction inspection/management service contracts for clients such as the New Jersey Turnpike Authority, New York City Department of Transportation (NYCDOT), New York City Economic Development Corporation, and MTA Bridges & Tunnels. His recent experience includes the $630 million NYCDOT Replacement of the Willis Avenue Bridge, as well as schedule manager for the $7.8 billion East Side Access Program.

Phil will be supported by a team of talented program managers who bring extensive experience on large-scale programs. The chart at right shows their management experience on projects over $100 milion in the past five years.

Principal-in-Charge Tom Potts, PE, has more than 36 years of experience and has provided his expertise on projects across the country, including supervising structural engineering 'on-call' contracts for the Authority. Additionally, **QA/QC Manager Joe Englot, PE,** will apply his more than 38 years of experience working on Authority projects, making sure your project is delivered to your standards.

HNTB is One of the Nation's Top Go-To Firms

Roads & Bridges' August 2010 issue ranked HNTB among the top three "go-to" firms in five of six categories, including road and highway, mass transit, bridges, airports, stormwater systems and design-build projects. **HNTB ranked number one among firms delivering mass transit projects.** The listing is significant as it is a survey of appointed and elected officials and engineers in state, county, city, township, municipal, federal and special road districts.

The organization chart included on page C.4 highlights the staff resources we will assign to your on-call project.

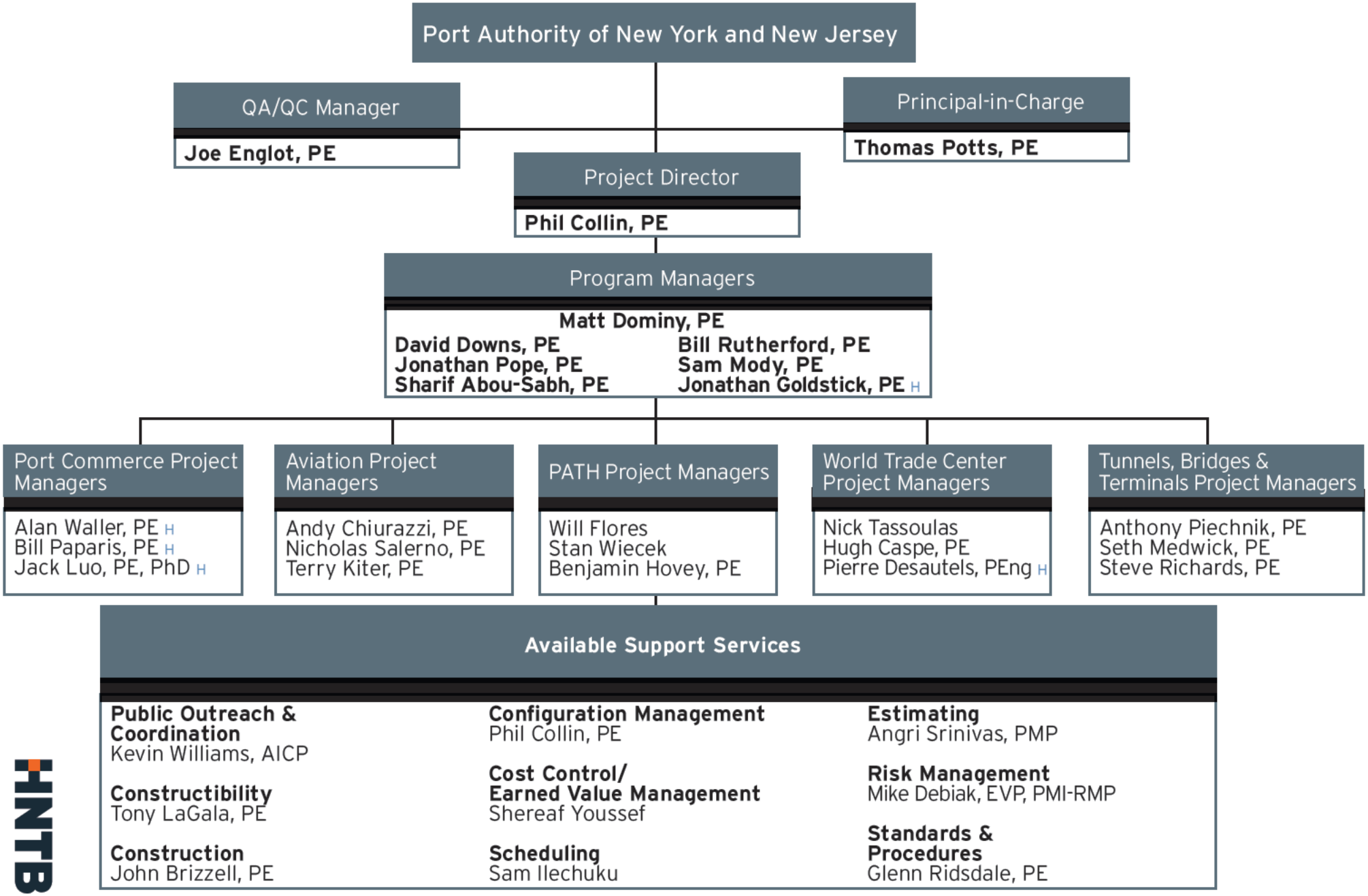
Halcrow, Inc.

Halcrow, Inc. (Halcrow), is a global multi-discipline engineering firm, employing more than 6,000 people in more than 80 offices in 70 countries throughout the world. With more than 500 staff in 24 offices in North America, Halcrow's international, national and local experience enables them to deliver global thinking and local know-how to projects in the New York metropolitan area and beyond. **Halcrow has carried out more waterfront projects than any other consulting engineering firm in the New York region.** The firm works with all of the Port Authority of New York and New Jersey's (the Authority) line departments and divisions and currently holds "on-call" contracts for the design of waterfront structures, the inspection of waterfront structures, port planning and asset management, and is currently undertaking the Runway Safety Areas Improvement Analysis at LaGuardia Airport, the New York Regional Goods Movement Plan, and the Interagency Study of Regional Private Passenger Ferry Services in the New York Metropolitan Area.

Beginning on page C.2 is a table showcasing our key personnel's experince relevant to your project. Resumes begin on page C.5.

Phil Collin, PE Project Director Years of experience: 21 Approximate total number of projects: 40	• MTA - Capital Construction, East Side Access Program, NY (Program Value: $7.8 billion) • NJ Transit, Preliminary Design Services for the Portal Bridge Capacity Enhancement Program, NJ (Construction Value: $1.5 billion) • NYC Economic Development Corporation, East River Waterfront Esplanade and Piers, Phase 1, NY (Construction Value: $150 million) • NJTA, Secaucus Interchange and Seaview Drive Extension, NJ (Construction Value: $220 million) • MTA, Blue Ribbon Panel, Master Scheduling and Labor Demand Modeling, NY (Program Value: $120 billion) • New York City Water Board, Coordination of Tunnel No. 3 Construction and Hudson Yards Redevelopment Program, Project Controls, New York, NY (Program Value: $1.3 billion) • TBTA, On-Call Construction Inspection (GFM-417) Contract, New York, NY (Construction Value: $30 million) • Chicago Transit Authority (CTA), Brown Line and Clark Junction Rehabilitation, Construction Management, Chicago, IL (Construction Value: $537 million) • MTA - NYCT, Times Square Station, Complex Rehabilitation, Phases I and II, Construction Management, New York, NY (Construction Value: $180 million)
Thomas Potts, PE Principal in Charge Years of experience: 37 Approximate total number of projects: 50	• PANYNJ, On-Call Structural Engineering Services, NY/NJ ($1.5 million/year) • PANYNJ, Lincoln Tunnel Helix Structural Rehabilitation and Repaving - Inspection, Stage II, and 50-percent Stage III, NJ ($478,000) • PANYNJ, Goethals Bridge and Outerbridge Structural Repairs and Painting Contracts, NY/NJ ($550 million) • PANYNJ, Design and Technical Services for Security Capital Programs on a "Call-In" Basis, NY/NJ (cost confidential) • NYSDOT, Lake Champlain Bridge Replacement, Crown Point, NY ($70 million)
Joseph Englot, PE QA/QC Manager Years of experience: 38 Approximate total number of projects: 35	• PANYNJ, The George Washington Bridge - Main Span Upper Level Structural Steel Rehabilitation, NY/NJ ($140 million) • PANYNJ, Capital Security On-Call AE Services, NJ (cost confidential) • PANYNJ, Bayonne Bridge Lift Concept, NY ($240 million) • PANYNJ, Lincold Tunnel Helix Structural Rehabilitation, NJ ($50 million) • PANYNJ, Seismic Retrofit Program for Tunnel, Bridge, and Bus Terminal Facilities, New York, NY ($100 million)
Matthew Dominy, PE Program Manager Years of experience: 40 Approximate total number of projects: 24	• DDOT, Anacostia Waterfront Improvement Implementation, Washington, D.C. ($2 billion) • MoDOT, Veterans Memorial Highway (Route 21) Relocation, MO ($120 million) • Alachua County, Florida, Public Works Director/County Engineer, FL ($1 million) • NTTA, Eastern Extension of President George Bush Turnpike, TX ($1 billion) • NTTA, Southwest Parkway, TX ($944 million) • NTTA, Lewisville Lake Toll Bridge, TX ($68 million) • Better Jacksonville Plan, Countywide Roadway and Rapid Transit Improvements Projects, FL ($1.02 billion)

David Downs, PE Program Manager Years of experience: 28 Approximate total number of projects: 20	• RTD/CDOT, Transportation Expansion Project (T-REX), CO ($1.7 billion) • UDOT, I-15 Reconstruction Project, UT ($3.5 billion) • WDOT, I-405 Project, WA ($1 billion) • MoDOT, Design-Build Program, MO ($800 million) • UDOT, I-15 CORE, UT ($1.75 billion)
Jonathan Pope, PE Program Manager Years of experience: 28 Approximate total number of projects: 10	• PANYNJ, Newark Liberty International Airport, Terminal A Modernization Program, NJ ($2.8 billion) • PANYNJ, Newark Liberty International Airport, Redevelopment Program, NJ ($780 million) • City of Chicago Department of Aviation, Operations Studies & Capital Improvement Projects, IL ($650 million) • Metropolitan Washington Airports Authority, Planning Task Management, Washington, D.C. ($400 million)
Sharif Abou-Sabh, PE Program Manager Years of experience: 34 Approximate total number of projects: 30	• Illinois Tollway Program Management Office, IL ($6.1 billion) • MTA, Stations Rehabilitation Program, New York, NY ($1.9 billion) • U.S./IL/Chicago Departments of Transportation, Metra, Amtrak, CREATE Program Manager, IL ($3 billion) • CTA, Capital Improvement Program Manager, IL ($2.4 billion)
Bill Rutherford, PE Program Manager Years of experience: 40 Approximate total number of projects: 45	• PANYNJ, Security On-Call A/E Services, NY/NJ (cost confidential) • NYCDOT, Willis Avenue Bridge, NY ($650 million) • PANYNJ, Newark International Airport, On-Call A/E Services, NJ ($20 million) • LIRR, Atlantic Avenue Viaduct Design-Build Phases I & II, NY ($69 million) • Ocean County, Mantoloking Bridge Replacement, Mantoloking, NJ ($22 million) • NJTA, Hudson County Extension Bridge Deck Repair, NJ ($10.8 million)
Sam Mody, PE Program Manager Years of experience: 27 Approximate total number of projects: 60	• NJDOT, Alexander Road Bridge Replacement over Amtrak Northeast Corridor, NJ ($24 million) • PennDOT, S.R. 4006, Section 76S, Reconstruction of City Avenue, PA ($15 million) • SJTA, Widening of Atlantic City Expressway, NJ ($30 million) • NJDOT, Reconstruction of Route I-295 Interchange 18, NJ ($17 million) • NJDOT, Route 133, Hightstown Bypass (D/B Project), Mercer County, NJ ($75 million) • NJDOT, Bypass (D/B Project), NJ ($75 million)
Jonathan Goldstick, PE Program Manager Years of experience: 30 Approximate total number of projects: 27	• PANYNJ, "On-Call" Waterfront Condition Surveys, NY/NJ ($1 million/year) • PANYNJ, "On-Call" Marine Structural Engineering Services, Engineering Division, NY ($750,000/year) • PANYNJ, Regional Private Ferry Study, NY/NJ ($475,000) • BNYDC, Brooklyn Navy Yard Rehabilitation, NY ($21 million) • HRPT, Hudson River Park Parkwide "On-Call", NY ($1.8 million) • National Parks Service, Battery Park Pier A, NY ($100,000) • NYCEDC, "On-Call" Marine Engineering Services, NY ($1 million/year)



The HNTB Team

HNTB New York Engineering and Architecture, PC *(an affiliate of HNTB Corp)*

Halcrow, Inc. H

PHIL COLLIN, PE

Role:
Project Director

Configuration Management

Firm:
HNTB

Education:
MS, 2002, Engineering Management, New Jersey Institute of Technology

BS, 1990, Civil Engineering, University of Massachusetts at Lowell

Registrations:
Professional Engineer:
NY/1996,
NJ/1995,

Affiliations:
Construction Management Association of America

NY General Contractors Association

American Society of Civil Engineers

Years of Experience:
21

Phil has had a focused career working on Northeast United States' largest, most complex projects in progressively responsible roles for over 20 years. He has spent most of that time advancing, improving upon and teaching project controls methodologies for large capital programs as part of construction management services. **He has been intimately involved, from a project controls perspective, in completing such notable projects as the NJTA Secaucus Interchange, Times Square Station Rehabilitation, Triborough Bridge Rehabilitation (TB-63), Stamford Station Center Island Platforms & Parking Garage and the I-87/I-287 Interchange 8 Reconfiguration. All of these projects demonstrated a very successful approach to project controls through contemporaneous schedule management, claims mitigation, proactive change order evaluation/ negotiations and document control.** Phil has also managed construction inspection/management service contracts for clients such as the New Jersey Turnpike Authority, New York City Department of Transportation, New York City Economic Development Corporation, and MTA Bridges & Tunnels. Phil is fully committed to providing the highest level of service to his clients by being fully engaged, responsive and focused on the best interest of the owner. His project experience includes:

Metropolitan Transportation Authority Capital Construction, East Side Access Program, New York, NY

Schedule manager for the $7.8 billion East Side Access Program for the New York City MTACC. The project is designed to improve mobility within the Long Island Transportation Corridor, specifically commuter rail access between Long Island and the East Side of Midtown Manhattan. East Side Access (ESA) relieves capacity constraints at Penn Station by connecting the Main Line and Port Washington Branches of the MTA LIRR to the existing lower level of the 63rd Street Tunnel beneath the East River, and continuing down Park Avenue in Manhattan to Grand Central Terminal (GCT). The program includes multiple contract packages for tunneling, systems, yards, facilities, stations and other works. Packages include third party contracts as well as LIRR and Amtrak Force Account work scopes. Phil's responsibilities include managing and coordinating the implementation, maintenance, reporting and change management for the program schedule. Reporting on this complex program includes monthly and quarterly cost and schedule reports through an Integrated Program Schedule (IPS) to the FTA and MTA and for ARRA requirements.

New Jersey Transit Corporation, Preliminary Design Services for the Portal Bridge Capacity Enhancement Program, NJ

Risk management services leader for the tri-venture team as part of the overall preliminary and final design services for New Jersey Transit. The project scope includes design of all aspects of the project in accordance with the EIS including the construction of two new rail bridges, track work, systems and environmental concerns to allow increased capacity through this critical portion of Amtrak and New Jersey Transit's Northeast Corridor. Phil organized the risk management work plan and facilitated the baseline risk workshops identifying 80 quantifiable project risks, mitigation measures and action plans. Phil continues to coordinate and manage the risk register and mitigation measures on a regular basis through the risk management team.

PHIL COLLIN, PE (CONTINUED)

Employment History:
2008 - Current
HNTB Corporation

2006 - 2008
Carter & Burgess

1990 - 2006
CTE Engineers, Inc./
AECOM

1988 - 1990
Camp, Dresser & McKee

Additionally, in final design a complete quantification of risks for both cost and schedule impact will be performed including Monte Carlo simulations, analysis of findings and final report presentation.

New York City Economic Development Corporation, East River Waterfront Esplanade and Piers, Phase 1, PM/Construction Management Services, New York, NY

Project manager for construction management services for the East River Waterfront Esplanade and Piers project, Phase 1. The $150 million project includes improvement and redevelopment of a two-mile portion of the East River Waterfront extending from the southern tip of Manhattan to the East River Park on the Lower East Side. Major scope components include reconstruction of South Street, installation of utilities and drainage, construction of new pile-supported, multi-use piers, and construction of new park elements including pavilions. The CM services contract included early involvement in the project to perform preconstruction efforts for this multi-contract, multi-discipline project. Preconstruction services included development of a master program schedule, detailed estimates, complex staging plans and contract packaging. Construction management services will include contractor oversight for multiple contracts, resident engineering and inspection, project controls and administration, and closeout/commissioning.

Metropolitan Transportation Authority, Blue Ribbon Panel, Master Scheduling and Labor Demand Modeling, Consulting Services, NY

Project transportation lead performing analysis of the projected $120 billion of construction forecasted for New York's five boroughs for the period of 2007 through 2012. Phil developed and coordinated the pro-forma model that was used to create global key resource estimates for the entire period. The results of this comprehensive analysis became a focused agenda item at the Blue Ribbon Panel meetings. Phil led the transportation efforts for the project and presented the findings and final conclusions to the Blue Ribbon Panel.

MTA Bridges and Tunnels (TBTA), On-Call Construction Inspection (GFM-417) Contract, Construction Management, Various Facilities, NY

Project manager who managed construction inspection staff and sub-consultants for 28 individual task orders for facility upgrades, repairs and system maintenance at the Triborough Bridge, Bronx-Whitestone Bridge, Throggs Neck Bridge, Queens Midtown Tunnel, and Verrazano Bridge. Responsibilities included project startup, client response, staffing, budgeting and schedule management. Scope of work elements for multiple concurrent projects included bridge joint replacement/deck repairs at the Manhattan toll plaza, administration building mechanical/electrical systems improvements, concrete crack injections and other structural repairs. Phil provided client response, staff selection, project startup and overall quality control.

THOMAS POTTS, PE

Role:
Principal-in-Charge

Firm:
HNTB

Education:
BS, 1973, Civil Engineering, Drexel University

Graduate Structural and Foundation Courses, New Jersey Institute of Technology

Registrations:
Professional Engineer:
NY/2007, #[redacted]
NJ/1977, #[redacted]
PA/1992, [redacted]

Affiliations:
American Society of Civil Engineers

American Concrete Institute

Years of Experience:
37

Employment History:
1973 - Current
HNTB Corporation

Tom is the office leader and a senior structural engineer in HNTB's New York office and has more than 37 years of bridge design, inspection and rehabilitation experience. He has provided his expertise on projects across the country, including supervising structural engineering 'on-call' contracts for the Port Authority of New York and New Jersey (PANYNJ), bridge and rail general engineering contracts for the New Jersey Transit (NJ Transit), and for the I-95/I-296 Interchange project for the Pennsylvania Turnpike Commission (PTC). Tom's project experience includes:

Port Authority of New York and New Jersey, On-Call Structural Engineering Services, Various Locations, NY/NJ

Project manager responsible for a variety of on-call assignments, including preparation of contract plans for the rehabilitation of the main span, eastbound, expansion tooth joint assembly at the NY tower of the George Washington Bridge. The joint rehabilitation was a prototype for rehabilitating the expansion tooth joint assemblies on the entire upper level of the GW Bridge. Modifications were made to the joint assembly and the end dam to incorporate redundancy in the event of a failure of the hold-down bolt. Additionally, HNTB was responsible for evaluation of roadway widening at the Bayonne Bridge as well as preparing preliminary and final design plans. Tom supervised rating of the existing structure for additional dead load, preliminary design of stiffening structures for the floor system and assessment of the hanger and connection assemblies for the additional loads. A final report outlining the findings, preliminary designs, cost estimates, and recommendations was prepared. Plans have also been developed for the bridge and roadway improvements.

Port Authority of New York and New Jersey, Lincoln Tunnel Helix Structural Rehabilitation and Repaving – Inspection, Stage II, and 50-percent Stage III, Weehawken, NJ

Principal-in-charge responsible for developing Stage II contract documents for the rehabilitation of bus terminal ramps at the Lincoln Tunnel. The project included the repair of reinforced concrete decks, replacement of deck expansion joints, replacing the deck wearing surface, and repair or replacement of accessible components of the deck heating system. Construction staging and MPT schemes had to be carefully developed.

Port Authority of New York and New Jersey, Goethals Bridge and Outerbridge Structural Repairs and Painting Contracts, Staten Island, NY and Elizabeth, NJ

Project manager/bridge team leader responsible for the inspection, structural rehabilitation and painting of the main span structural steelwork for the Goethals Bridge and the inspection, structural rehabilitation and painting of the approach span steelwork associated with the Outerbridge Crossing for the Port Authority of New York and New Jersey. Additionally responsible for the development of details for the rehabilitation of the tooth damn deck joints of both the George Washington Bridge and the Goethals Bridge.

THOMAS POTTS, PE (CONTINUED)

Port Authority of New York and New Jersey, Design and Technical Services for Security Capital Programs on a "Call-In" Basis, NY/NJ

Structural team leader for architectural and engineering services on an "as-needed" basis for the Capital Security Program projects at various Authority facilities throughout the Port District. The required services may include: conceptual design, design development, final design, system design and development, contract document preparation and post award services for a variety of security projects.

Port Authority of New York and New Jersey, On-Call Facility Condition Survey Services, NY/NJ

Project manager for the 2007 in-depth inspection of the 6,000-foot Bayonne Bridge, including a 1,675-foot, main-steel, arch-truss spans with suspender ropes. The work involved extensive traffic control coordination and use of UB60 and UB30 over-the-side inspection vehicles as well as lift trucks and man-lifts ranging in size from 35 to 158 feet. Extensive tethered climbing was required for inspection of the upper and lower arch trusses, suspender ropes at lower socket connections, and both open steel tower anchorages. Extensive coordination with the Authority and U.S. Coast Guard was also required for the inspection of the main span. Marine radios were utilized during the inspections to provide continual daily communication with USCG Vessel Traffic Services due to low navigational clearances over the main shipping channel. The project also involved submittal of a detailed condition survey report highlighting the status of previous and current priority and safety repair recommendations as well as submittal of biennial inspection reports for both the NYSDOT and NJDOT.

Port Authority of New York and New Jersey, On-Call Facility Condition Survey Services, NY

Project manager for the 2006 Biennial Inspection of 16 LaGuardia Airport bridges. These inspections required special access with lift trucks, traffic control and nighttime inspections. Job also included preparation of an Authority Condition Survey Report, an individual NYSDOT Bridge Inspection Report for each bridge, and load ratings for a recently rehabilitated bridge (L4) over the Grand Central Parkway.

New York State Department of Transportation, Lake Champlain Crown Point Bridge Crown Point, NY to Chimney, VT

Project manager for this historic, steel truss bridge, 2,184 feet in length from Crown Point, NY to Chimney, VT. HNTB was originally contracted to begin services in project scoping, with the intention of moving toward either rehabilitation of the existing structure or complete design of a new bridge. However, investigations into the existing pier conditions in fall 2009 led to closure of the bridge with both New York and Vermont declaring emergencies. HNTB submitted a safety assessment report that concluded the bridge too unsafe for repair and recommended controlled demolition. HNTB was asked by NYSDOT to develop the demolition plan for the existing bridge, as well as perform design and construction services for a new bridge. Due to the nature of the emergency situation, the demolition, new design, and construction are on an extremely expedited schedule with a goal to open the new bridge by summer 2011.

JOSEPH ENGLOT, PE

Role:
QA/QC Manager

Firm:
HNTB

Education:
MS, 1972, Civil Engineering, Polytechnic Institute of Brooklyn

BS, 1972, Civil Engineering, Polytechnic Institute of Brooklyn

Registrations:
Professional Engineer: NY/1978, [redacted]

Affiliations:
American Society of Civil Engineers (NY Met Section)

Structural Engineers Association of NY

NYC Municipal Engineers Society

National Society of Professional Engineers

National Fire Protection Association

Years of Experience:
38

Employment History:
2005 - Current
HNTB Corporation

1972 - 2005
Port Authority of New York and New Jersey

Joe has more than 38 years of experience in the design of transportation facilities and the management of large projects, including 21 years of relevant project management experience. Joe oversees projects that reduce the vulnerability of bridges, tunnels, and transit facilities to malevolent acts through the use of physical hardening, surveillance, and incident management, as well as, projects to rehabilitate and retrofit structures against the effects of natural hazards and general structural deterioration. He also has extensive experience in damage assessment and disaster recovery of transportation facilities due to acts of terrorism, ship collision, truck collision and storms. Joe directed damage assessment and disaster recovery projects for the 9-11 destruction of the World Trade Center, the 1993 bombing of the World Trade Center, and was also a member of the FHWA/AASHTO Blue Ribbon Panel that developed the report Recommendations for Bridge and Tunnel Security published in September 2003. His project experience includes:

Port Authority of New York and New Jersey, The George Washington Bridge – Main Span Upper level Structural Steel Rehabilitation, New York, NY/ Fort Lee, NJ

Project manager who led the PTG/HNTB Joint Venture project with responsibility for overall project development from inception to final completion of contract documents. Upcoming task will be the post award construction support services. Project includes field inspection, rehabilitation of the orthotropic deck, drainage improvements, priority repairs to supporting steel, weight-in-motion (WIM) data collection, load testing, instrumentation, and life-cycle cost study of future deck alternatives. The project also requires complex traffic staging and the use of heavy-duty work platforms.

Port Authority of New York and New Jersey, Capital Security On-Call AE Services, Jersey City, NJ

Provided technical supervision for the installation of interim police facilities on the roof of a parking garage including monitoring of crane heavy lifting operations and design of temporary shoring and permanent strengthening systems for the parking deck structure.

Port Authority of New York and New Jersey, Rehabilitation of Lincoln Tunnel New Jersey Helix Approaches, Weehawken, NJ

Project manager for preliminary design and final design contract documents for major structural and electrical rehabilitation of 260,000 square feet of heavily trafficked, elevated concrete roadway, deck structure and sub-structure for Route I-495 highway approach to the Lincoln Tunnel. The project included the evaluation of costs and construction schedults for three different traffic staging alternatives and five different levels of deck rehabilitation to select the scheme that is the most cost effective over the next 10 years, until complete replacement of the structure can be funded by the Authority.

JOSEPH ENGLOT, PE (CONTINUED)

Port Authority of New York and New Jersey, Bayonne Bridge Lift Concept, Staten Island, NY

Project manager who supervised the technical work to perform a preliminary study to confirm the feasibility of converting the existing fixed arch truss into a lift bridge to increase the navigational clearance from 151 feet to 215 feet for new large container ships. The scope of the study included conceptual sketches for the lift bridge modifications, conceptual structural analysis, a conceptual mechanical and electrical design, and a description of the assumed operating conditions for large container vessels that will require the deck to be raised for passage. In addition, the scope called for descriptions of reliability of the moveable bridge mechanism, modifications to the navigational channel, assumptions on construction staging and a design and construction schedule for the project.

Port Authority of New York and New Jersey, Capital Security On-Call AE Services, Jersey City, NJ

Project manager who supervised an agency-wide security system evaluation. Performed an assessment of the long-term effectiveness of the existing security infrastructure and incident command system and compared it conceptually to alternatives modeled after best practices in government and private industry.

Port Authority of New York and New Jersey, Capital Security On-Call AE Services, Jersey City, NJ

Project manager who supervised asset strengthening for major Port Authority facility against the hazards/threats of hydrocarbon fire, blast fragmentation, and special force demolition techniques.

New Jersey Department of Transportation and the Office of Homeland Security & Preparedness, Validation of Vulnerability Assessment of Bridges and Tunnels in New Jersey, NJ

Project manager who led a study to prioritize all bridges and tunnels in the state by criticality and vulnerability and conduct a threat assessment, a vulnerability assessment, an impact assessment and a countermeasure needs assessment for the 50 most critical assets.

Metropolitan Transportation Authority Security Program, New York, NY

Quality assurance review of incidence management system for 14 underwater mass transit system tunnels. Tasks include hardening of tunnel lighting, communications, and emergency signage. Oversaw testing of prototype system fixtures in the blast simulator shock tube facility. Vulnerability risk assessment and mitigation design for two major, long-span bridges.

New Jersey Department of Transportation, On-Call Services, Trenton, NJ

Project manager who supervised threat and vulnerability assessment and mitigation analysis for major highway bridge and viaduct structure. Conducted workshops on critical infrastructure for state transportation engineers and first responders.

MATTHEW DOMINY, PE

Role:
Program Manager

Firm:
HNTB

Education:
ME, 1977, Civil Engineering Management, University of Florida

BS, 1969, Civil Engineering, Bucknell University

Registrations:
Professional Engineer:
FL/1977, [redacted]
DC/2007, [redacted]

Affiliations:
American Academy of Environmental Engineers, National Director, National Treasurer

American Public Works Association, National Director

Years of Experience:
40

Matt has more than 40 years of experience in transportation, utilities, municipalities, public works and environmental industries. His expertise includes tactical and strategic planning, operational development and project management exceeding profit, volume, revenue growth and organizational goals. Matt has proven skills in program leadership and the technical ability to lead and manage the development of complex highway, bridge and associated infrastructure programs. Matt is dedicated to development and retention of talent, while meeting challenges of organizational restructuring. Furthermore, he has a proven record of new business initiatives and capabilities in design and construction of all phases of program management for programs exceeding $1 billion. Determining and securing funding sources has been a significant part of these programs. Matt has consistently managed the delivery of these complex projects on-time and under budget. His project experience includes:

District Department of Transportation, Anacostia Waterfront Improvement Implementation, Washington, DC

Program manager in charge of delivering $2 billion worth of projects included in the Anacostia Framework Plan. The two principle projects under the program are replacement of the 11th Street and South Capitol Street bridges. The goal of the program is to update and improve transportation facilities across all modes to support the economic redevelopment of the Anacostia Waterfront area.

Missouri Department of Transportation District 6, Veterans Memorial Highway (Route 21) Relocation, Jefferson County, MO

Program manager for the first Program Management Consultant (PMC) role in MoDOT history. Worked with MoDOT as an extension of their staff and fulfilling the traditional role of a MoDOT project manager on this high-profile project, including participation in all District 6 meetings, execution of public involvement activities, and acting in the same capacity of an internal MoDOT project manager. This project included the relocation and upgrade of a new 15-mile corridor to a four-lane freeway configuration. Route 21 was characterized as "the most dangerous highway in Missouri." Under his leadership, HNTB and MoDOT staff selected and negotiated contracts with all corridor design consultants. This important assignment included delivery of final design plans and construction documents with HNTB on-call during construction phases. This contract is valued at $120 million.

Alachua County, Public Works Director and County Engineer, FL

Program manager who oversaw the development of the first Corridor Design Manual for the County supervised the reconstruction of 10 miles of CR-232.

North Texas Tollway Authority, Eastern Extension of President George Bush Turnpike, Garland/Rowlett/Sachse, TX

Deputy executive director in charge of the design and right-of-way acquisition for a proposed 9.9-mile segment from SH 78 in Garland, east to IH-30. The proposed six-lane toll road will pass through Garland, Sachse

MATTHEW DOMINY, PE (CONTINUED)

Employment History:
2007 – Present
HNTB Corporation

2005 - 2007
North Texas Tollway Authority

2004 - 2005
HDR

2002 - 2004
Jacksonville Transportation Authority

2000 - 2002 Alachua County, Gainesville, FL

1996 - 2000
HNTB Corporation

1988 - 1996
City of Torrington, CT

1986 - 1988
Barry Isett & Associates

1984 - 1986
Salisbury Township, Allentown, PA

1983 - 1984
GPI Architects, Planners & Engineers

1980 - 1983
MRI Corporation

1970 - 1980
U.S. Army Corps of Engineers

and Rowlett and will include a one-mile bridge over Dallas' Lake Ray Hubbard. The $1.037 billion project was divided into four design sections, with different consultant design teams for each section. Right-of-way for the whole project was managed by a separate consultant team.

North Texas Tollway Authority, Southwest Parkway, Fort Worth, TX

Deputy executive director responsible for design and interagency coordination Texas Department of Transportation (TxDOT) and Union Pacific Railroad (UPRR), for Southwest Parkway, a proposed six-lane tollway that will connect the City of Fort Worth's Central Business District at IH-30 to U.S. 67 in the city of Cleburne in Johnson County. The initial $944 million, 8.2-mile project is currently under design by five different section consultant teams and will link IH-30 and Forest Park Boulevard to Altamesa Boulevard in the southwest portion of Fort Worth. TxDOT has plans to eventually extend the toll road further south from Altamesa to U.S. 67 in Cleburne. Final design is under way and environmental clearance has been received.

North Texas Tollway Authority, Lewisville Lake Toll Bridge, Lewisville, TX

Deputy executive director responsible for design bidding, award and construction of a new 1.7-mile east-west signature toll bridge across Lewisville Lake. Specific challenges involved heavy interaction with Army Corps of Engineers. The new bridge will feature a lighted, tied arch spanning 360 feet at the center of the 1.7-mile bridge. Approaches and thresholds of the bridge will be flanked by pairs of decorative lighted columns.

Jacksonville Transportation Authority, Better Jacksonville Plan, Roadway and Utility Improvements, Jacksonville, FL

Program manager for the $375 million program consisting of 23 individual roadway capacity improvement projects. In-house staff of four design project managers and two construction managers delivered these projects through individual consultant and construction contracts. At any one time, projects were at various stages in the delivery process from preplanning through construction. Coordinated flow of projects with client to correspond with flow of available bond funds, which were backed by anticipated sales tax revenues.

Jacksonville Transportation Authority, Better Jacksonville Plan Countywide Roadway and Rapid Transit Improvement Projects, Jacksonville, FL

Chief engineer responsible for all aspects of project delivery from planning through right-of-way acquisition, public involvement, design, construction and turnover to owner. Thirty-two individual projects were dispersed over the entire 864 square-mile-area of Duval County and had individual construction costs of $35-150 million. Funding sources included federal transportation funds, bond funds and dedicated sales tax funds. Projects evolved along an individual timeline with all work post planning performed by individual project consultants and contractors. Directed execution of the first three design-build projects in Northern Florida. Total construction value of $1.02 billion.

DAVID DOWNS, PE

Role:
Program Manager

Firm:
HNTB

Education:
BS, 1983, Civil Engineering, University of Utah

Registrations:
Professional Engineer: UT/1992 [redacted]

Years of Experience:
28

Employment History:
2007 - Current
HNTB Corporation

2001 - 2007
Downs Consulting

1999 - 2001
Carter & Burgess

1994 - 1999
Utah DOT

1988 - 1994
HNTB Corporation

1983 - 1988
Utah DOT

David is HNTB's national director of Program Management services and is an expert in strategic management consulting and innovative project delivery. For the past 27 years, he has led program management teams to deliver multi-billion dollar capital improvement programs. He has assisted numerous owners in developing strategic goals for their most challenging programs; and developing and implementing project delivery strategies to meet these goals. David will use his invaluable expertise to help implement innovative project delivery strategies for the future of your on-call project. David's experience and his readiness to lead the HNTB Team in delivering more value for your investment can be noted through his contribution on the I-15 CORE in Salt Lake City, Missouri I-64 Design-Build Program, and the I-405 Corridor in Washington. His project experience includes:

Colorado High Performance Enterprise Transportation Enterprise (HPTE), CO

Interim executive director for the Colorado High Performance Transportation Enterprise. The HPTE was created by the General Assembly of the State of Colorado as a government-owned business within CDOT with the authority and mission to seek out opportunities for innovative and efficient means of financing important surface transportation infrastructure projects. David is assisting the HPTE Board to develop a Strategic Plan and organizational structure that will utilize Public Private Partnerships (P3), and user fee revenue sources such as tolling and vehicle miles traveled (VMT) to develop and deliver critical transportation corridors throughout Colorado that would not be delivered by traditional funding sources in the foreseeable future.

Regional Transportation District and the Colorado Department of Transportation Other, Transportation Expansion Project (T-REX), Denver, CO

The T-REX project, a $1.7 billion multi-modal project, was the first of its kind to be delivered using D-B. The owners having never used D-B delivery for a project of such significance and called on David to lead their project team through a D-B procurement process and successful project completion. David was part of a three-member project direction team providing leadership to a 90-person Owner team. David played a key role in establishing and implementing all project management processes and systems for the D-B light rail expansion and highway improvement project. David provided support to the RTD and the CDOT for establishing project goals, developing D-B procurement processes, performing systematic risk analysis, developing contract documents, establishing the selection criteria and evaluation process. David also assisted RTD and CDOT thru project implementation including resolving contract disputes, establishing a quality council and establishing project closeout procedures.

Utah Department of Transportation, I-15 Reconstruction Project, Salt Lake City, UT

Project director who led the Utah Department of Transportation's I-15 team to successfully implement the nation's largest highway D-B proj-

DAVID DOWNS, PE (CONTINUED)

ect. A project that would be valued close to $3.5 billion in today's dollars, David led UDOT in the effort to evaluate project delivery methods, develop the RFQ and RFP; select the D-B contractor; negotiate a D-B contract; and manage the delivery of the work. He was responsible for all elements of project delivery, including legislative reporting, public communications, local government coordination, contract administration, project controls, DBE/EEO compliance, project safety, environmental mitigation, and railroad/right-of-way/utilities coordination.

Washington Department of Transportation, I-405 Project, Bellevue, WA

David was Chairperson of a Strategy Advisory Board that advised the Washington Department of Transportation on program management solutions for the I-405 highway improvement program. The Strategic Advisory Team provided input into the development of project goals, procurement strategies, selection criteria and evaluation processes, risk analysis, contract document development and D-B implementation systems for D-B projects totaling close to $1B.

Utah Department of Transportation, I-15 CORE, Salt Lake City, UT

Design-build manager helping UDOT to strategically develop a design build process, D-B procurement documents and management systems necessary for successful project delivery. David led the development of a fixed-price/best design D-B procurement that resulted in selection of a D-B contractor that provided a project scope that was originally estimated by UDOT to cost $2.63 billion for $1.75 billion.

Missouri Department of Transportation, Design-Build Program, Jefferson City, MO

Provided strategic advice to the Missouri Department of Transportation to create a very flexible fixed-price/best design approach to develop its first D-B program. David led the D-B procurements for two critical transportation improvement projects, the $545 million I-64 corridor in St. Louis and the $250 million kcICON Project in Kansas City. He also helped develop MoDOT's Design-Build Manual to be used by MoDOT on all of its D-B projects.

Minnesota Department of Transportation Design-Build Program, Minneapolis, MN

Provided strategic advisory services to the Minnesota Department of Transportation to develop its programmatic D-B approach. This included developing model D-B contracts, procurement and oversight processes. The model D-B contract and procurement processes were used successfully to deliver the I-494 reconstruction project, the TH212 project and the I-35 emergency bridge replacement project.

JONATHAN POPE, PE

Role:
Program Manager

Firm:
HNTB

Education:
BS, 1981, Civil Engineering, Lehigh University

Registrations:
Professional Engineer: IL/1987, #[redacted]

Affiliations:
American Society of Civil Engineers, Air Transport Division

ASCE Transportation & Development Institute, Charter Member

American Association of Airport Executives

Airport Council International – North America, Technical Affairs Committee

Airport Consultants Council, Terminal and Project Delivery Committees

Years of Experience:
28

Jon has an unparalleled record of delivering comprehensive aviation capital investment programs for both airports and airlines. He has formed a unique approach to assignments based on his extensive experience in analyzing aviation facility operational challenges, developing solutions, and implementing improvement programs. He has managed projects through all phases of development, from establishing purpose and need, through conceptualization and programming, planning, design and construction to start-up, commissioning, and contract closeout. His project experience includes:

Port Authority of New York and New Jersey, Newark Liberty International Airport, Terminal A Modernization Program, Newark, NJ

Program director for PFC-funded planning for the future of the 37-year old terminal, assessing demand, capacity, ability to accommodate future demand, and alternatives including renovation, redevelopment, and replacement. He performed on-site in an extension-of staff role, leading a group of 18 staff planners, architects, and designers, and 12 sub-consultant firms in developing airport-wide terminal-area plans for the capacity-constrained facility. His efforts encompassed forecasting, identifying existing facility capacities and constraints to growth, determining future needs, assessing the role of future technologies, program economics, developing the business plan including potential P3 participation, incorporating sustainable development strategies through an integrated design effort and LEED certification, environmental planning and processing, and conceptual project design. The resulting all-new, 33-gate facility will provide accommodations for domestic legacy, low-cost, and international carriers in a common-use facility. The program includes extensive infrastructure, roadway, parking facility, and both on-airport and airport access transit systems incorporated into the design.

Port Authority of New York and New Jersey, Newark Liberty International Airport, Redevelopment Program, Newark, NJ

Program manager for the $780 million Redevelopment Program at Newark Liberty International Airport. Leading an on-site staff of 12 in an extension-of-staff role, he provided on-site schedule, budget, and project management control over the six-year effort which was completed on time and $60 million under budget. He also acted as the lead planner for all airside and landside planning. His staff provided service as the owner's project managers for each element of the program scope, including two 3,000+ space parking garages, access and central terminal area roadway improvements, terminal re-lifing, construction of a new administration building and Airport Rescue and Firefighting Facility, airfield taxiways and hold aprons, and coordination with the Newark AirTrain Extension program. His team also acted as the landlord in coordinating and overseeing the Continental Airlines' $800 million Global Gateway Program.

City of Chicago Department of Aviation, Operations Studies & Capital Improvement Projects, Chicago, IL

Consultant who performed numerous business/operating studies, including the Midway Airport Fixed Base Operators' Business Services Study and O'Hare International Airport Slot Rule Analysis/FAA Coordination.

JONATHAN POPE, PE (CONTINUED)

Employment History:
2010 - Current
HNTB Corporation

1998 - 2010
The Louis Berger Group, Inc.

1995 - 1997
Edwards and Kelcey, Inc

1992 - 1995
Ricondo & Associates, Inc.

1987 - 1992
Northwest Airlines, Inc.

1986 – 1987
Robert + Company

1984 – 1986
Schal Associates (now part of Bovis)

1981 – 1984
Foster Wheeler Energy Corporation

He also was instrumental in the preliminary layout studies for the Midway Airport New Terminal Design Concept Development. As the Northwest Airlines Facilities representative, he was project manager for various tenant improvement projects, including outbound baggage system expansion, cargo building renovations, and ADA compliance projects at both O'Hare and Midway. He represented the airline on both the O'Hare Airport Facilities Steering Group and the Chicago International Carriers Association, playing an integral role in setting the planning parameters for ORD Terminal 5, the International terminal. Early in his career he was as a resident engineer on aircraft hydrant fueling and airfield paving projects at O'Hare.

Metropolitan Washington Airports Authority, Planning Task Management, Washington, D.C.

Task manager on multiple assignments at both MWAA airports, including the New North Terminal Program Airside Planning at Reagan National Airport and the permanent midfield concourses at Dulles International Airport. He also prepared the Airport Rescue and Fire fighting Station Master Plan for Dulles, and produced the airside plans for a fast-tracked six-gate expansion project for ValuJet (now AirTran) at Dulles.

Northwest Airlines, Inc., Facilities Project Management, St. Paul, MN

Represented the Facilities Department in establishing corporate-wide policies and procedures in the development of capital project program controls. He initiated the corporate project management team concept of project delivery, including members of all interested divisions, such as properties, operations, marketing, maintenance, finance, and law, in the capital improvement process. Notable projects he directed include the simultaneous roll-out of the automated bag tag print-on-demand system 140 cities, and the facilities evaluation and integration plans for both the Midway Airlines and Continental Airlines Acquisition Assessments. He had responsible charge over all facets of airport and aviation facility development projects in 34 cities throughout the United States, Canada Mexico and Jamaica, including discreet project management and serving on capital program technical advisory committees at each of those facilities.

Detroit Metropolitan Wayne County Airport, Airline Technical Representative, Detroit, MI

Airline technical representative for the major airline at Detroit, Jon was chairman of the Detroit Airline-Airport Technical Committee. As such, he developed the technical brief for and was a design judge for the 74-Gate World Travel Center Midfield Terminal Design Competition (the McNamara Terminal). Major capital improvement projects managed by him included overseeing the planning, design, and construction of the Berry International Terminal FIS fast-track expansion, flight kitchen expansion and various airport facility tenant improvements, including automated baggage system expansion, hangar renovations, ADA compliance projects. These projects were financed by a combination of direct airline investment, Special Facility Bonds, and General Airport Revenue Bonds, all of which required differing levels of administration and record keeping.

SHARIF ABOU-SABH, PE

Role:
Program Manager

Firm:
HNTB

Education:
Diploma, 1988, Construction Management, New York, NY

MS, 1981, Civil Engineering, Columbia University

BS, 1977, Civil Engineering, Ain Shams University, Cairo

Registrations:
Professional Engineer:
NY/1983 [redacted]
IL/2000,
CT/Inactive,

Affiliations:
American Society of Civil Engineers

American Concrete Institute

National Academy of Sciences

CMAA

Years of Experience:
34

Sharif is an experienced program and construction manager for large-scale and complex infrastructure and institutional capital improvement programs, as well as commercial projects. In his 32 years of diversified engineering practice in the United States and abroad, Sharif has managed the full range of technical and managerial aspects of construction and development projects. His extensive hands-on experience encompasses technical and managerial activities, including design, production, construction management and program management. Sharif's responsibilities cover client contact, organization and direction of civil and structural engineering design and construction function as well as schedules, budgets, profit margins and feasibility studies. Responsibilities include client contact with extensive multiple department coordination, organization and direction of civil and structural engineering design and construction functions, as well as schedules, budgets, profit margins, and feasibility studies. His project experience includes:

Illinois Tollway, Illinois Tollway Program Management Office, Downers Grove, IL

Program manager for the first five years of the program responsible for the strategic direction, activities and performance of the Program Management Office. Sharif directed the development of programs, operations and activities for the program management team. He also developed and managed procedures and processes to plan, design, implement, monitor, evaluate and document all capital construction activities. Sharif saw that projects were implemented on a timely basis, consistent with established budgets and schedules and in conformance with client, state and federal funding agency regulations and requirements. Sharif designed and implemented process efficiencies to streamline internal procedures and time lines related to construction management, project progress and budget and schedule adherence. He also implemented a structure designed to effectively execute this fast-paced, complex program at a cost that is well below the industry average as depicted in the percentage of Change orders at less than 2-percent of the awarded amounts. Sharif's oversaw the following PMO initiatives:

- Implementation of strategic direction, activities and performance of the program management office.
- Development of programs, operations and activities for the program management team.
- Leveraging of the Tollway's in-house knowledge and experience to establish parameters and guidelines for design and maintenance.
- Assembling, maintaining and motivating an integrated team comprised of Tollway, HNTB, GEC and additional consultant staff.
- Establishing and pursuing a master schedule for the Program that balances the numerous safety, operational and public concerns and priorities.
- Evaluation of existing Tollway capital planning and construction processes.
- Implementation of the ISO 9001-2000 certified quality management system.
- Building consensus among all customers and stakeholders.
- Monitoring of the performance and results of existing management processes and procedures.
- Cultivating a "no surprises" approach to management.
- Upholding the Tollway's management principles throughout each phase of the Program's implementation.

SHARIF ABOU-SABH, PE (CONTINUED)

Employment History:
2005 - Current
HNTB Corporation

2004 - 2005
Earth Tech, Inc

2004 - 2004
CTE Engineers

1999 - 2004
URS Corporation

1986 - 1999
Metropolitan Transit Authority

1984 - 1986
Prentice & Chan Ohlhausen Architects

1982 - 1984
Internationan Consulting Services Company

1981 - 1982
Amman & Whitney Consulting Engineers

1978 - 1981
Parson Brown Consulting Engineers

1977 - 1978
DR. M. HWSHIMV Consulting Engineers

The goal of this $6.1 billion congestion-relief program - Open Roads for a Faster Future is to rebuild and restore nearly the entire Tollway system, including widening and reconstructing 274 miles of existing highways and completing the construction of a new 12.5-mile extension of a major corridor. It is projected that the Tollway capital plan will improve mobility in 12 counties, reduce daily commute times by 20 minutes a day, and will provide a positive economic benefit to local communities. Projects include:

- I-88 Corridor, $1 billion
- I-294 Corridor, $2.4 billion
- I-355 Corridor, $750 million
- I-90 Corridor, $400 million

Metropolitan Transportation Authority, Stations Rehabilitation Program, New York, NY

Deputy program manager for the Department of Capital Program Management for the $1.9 billion Stations Rehabilitation Program. Sharif directed the daily operations of 15 project management offices, with more than 350 professionals comprised of NYCT transit personnel, consultants, designs firms and more than 40 contracting companies. He also served as the MTA/NYCT's ADA liaison on the Mayor's transportation committee and was responsible for the implementation of the design and construction of the entire transit accessibility program. He co-authored and oversaw construction management of the MTA/NYCT 2000-2004, $1.9 billion Stations Program that was categorized as the most aggressively-scheduled program in the U.S. at the time.

United States/Illinois/Chicago Departments of Transportation, Metra, Amtrak, CREATE Program Manager, IL

Project manager providing program management services for the $3.0 billion CREATE program, a public-private partnership between the U.S. DOT, Illinois Department of Transportation, Chicago Department of Transportation, Metra, Amtrak and the nation's freight railroads, developed to invest in critically-needed rail infrastructure improvements in the Chicago area, and to increase the efficiency of freight and passenger rail service throughout the region. The goals of the CREATE program are to improve the efficiency and reliability of local and national passenger and freight rail service.

Chicago Transit Authority, Capital Improvement Program Manager, Chicago, IL

Program manager for the Capital Improvement Program for CTA. Sharif was responsible for planning and implementation of the $2.4 billion capital construction program and managing a staff of 68 professionals. He developed and managed procedures and methods to plan, design, implement, monitor, evaluate and document capital construction activities. He also made sure projects were implemented on a timely basis, consistent with established budgets and in conformance with CTA, state and federal funding agency regulations and requirements.

BILL RUTHERFORD, PE

Role:
Program Manager

Firm:
HNTB

Education:
Engineering Executive Program, 1993, Stanford University

MS, 1972, Civil Engineering, Stanford University

BS, 1966, Civil Engineering, Clarkson College of Technology

Registrations:
Professional Engineer:
NY/ 1986, #[redacted]
NJ/1991,
FL/1984, #[redacted]
TX/1979, #[redacted]
CT/1971, #[redacted]
CA/1977,

Certified General Contractor:
FL/1984, [redacted]

Certified Special Inspector:
FL/1986 #[redacted]

Affiliations:
American Society of Civil Engineers

Society of American Military Engineers

Construction Management Association of America

American Society for Quality

Years of Experience:
40

Bill, a vice president with HNTB, is a registered professional engineer with more than 40 years of experience in managing both design and construction on many projects. More than 20 of those years were spent working on structural design projects with electrified railroad track elements, while chairing the ASCE design/build committee. Currently, he is responsible for project management and quality control of general consultants and on-call design and construction projects in the New York/New Jersey metropolitan area, including HNTB's general consultant agreement for bridge and rail assignments with the New Jersey Transit and the multi-discipline, on-call project for A/E Services, engineering services for various agencies including New York MTA and the Authority. Bill is continuously interfacing with various railroad departments and agencies, while coordinating/managing engineering, design, project scope, budgets and schedules. His project experience includes:

Port Authority of New York and New Jersey, Security On-Call A/E Services, NY and NJ

Project manager responsible for overseeing on-call design and construction phase services for a variety of district-wide projects for the Port Authority's Security program on an as-needed basis. The project types include hardening of structures, security fencing, crash walls, access control and personnel intrusion detection systems. Specific project information is client confidential. Work has been accomplished under high security control by HNTB and our team of specialty subconsultants.

New York City Department of Transportation's, Willis Avenue Bridge, New York, NY

Principal-in-charge for this resident engineering and inspection services contract for the $650 million replacement of New York City Department of Transportation's Willis Avenue Bridge over the Harlem River and the Major Deegan Expressway. The bridge replacement includes the replacement of the FDR Drive approach ramp and the ramp onto Bruckner Boulevard.

Port Authority of New York and New Jersey, Newark International Airport, On-Call A/E Services, Newark, NJ

Project manager responsible for overseeing the architectural and engineering design services for a variety of projects at Newark International Airport on an as-needed basis. The project types include terminal frontages, terminal access roadways and terminal building modifications, as well as utility system upgrades. Projects may also include airfield modifications such as taxiways, roadways and drainage system design, aircraft parking design and taxiway bridges and building design for ARFF, administration and parking garage facilities, as well as building demolition.

MTA – Long Island Rail Road, Atlantic Avenue Viaduct Design-Build Phase II, Brooklyn, NY

Design manager for the second phase of the Atlantic Avenue Viaduct replacement project. The second phase of this design-build project included another 84 spans as well as custom spans at the ends of the

BILL RUTHERFORD, PE (CONTINUED)

Employment History:
1993 - Current
HNTB Corporation

1974 - 1993
Kaiser Engineers

1972 - 1974
Peter Kiewitt Sons' Co., Inc.

1969 - 1971
Morrison Knudsen Construction Co.

1966 - 1969
U.S. Navy CivilEngineer Corps (LT)

viaduct where spiral curves were introduced to the correct tunnel alignments at both the east and west ends. This phase is projected to be completed by the fall of 2010.

MTA - Long Island Rail Road, Atlantic Avenue Viaduct Design-Build Phase I, Brooklyn, NY

Design engineer for the first phase of the Atlantic Avenue Viaduct project in the borough of Brooklyn, New York. The project calls for the replacement of 87 spans of a dual-track commuter rail line for the LIRR with a total construction value of approximately $69 million. HNTB will design the superstructure replacement, and column repairs of the viaduct, including seismic evaluation of the new configuration. Construction will occur while maintaining rail service on at least one of the two tracks. The team will conduct inspection of the structure, evaluate current conditions, and prepare traffic control plans for lane closures and alternate routes.

Ocean County, Mantoloking Bridge Replacement, Mantoloking, NJ

Construction management - project manager for this $22 million federally funded project which entailed the replacement of this historic circa 1938 single-leaf, bascule-lift span with a new hydraulic-lift double-leaf bascule bridge. Project includes H-beam and concrete-filled pipe piles, realignment of approach roadways, drainage, embankment, HPC bridge deck construction, structural steel and precast concrete girders, multiple sequenced construction to allow for unobstructed traffic on the existing structure. Coast Guard permitting and environmental regulations were strictly enforced.

New York City Department of Transportation, Shore Road Bridge, NY

Project manager for replacement of the Shore Road Bridge, a 10-span double-leaf rolling bascule bridge over the Hutchinson River. HNTB, as part of a joint venture, has been retained by the NYC Department of Transportation for the total replacement design. The assignment required the development of a bridge reconstruction project report that required an in-depth inspection as well as traffic study. The scope included comparisons of different structural alternatives and alignments for the complete replacement / rehabilitation of the existing bridge, demolition of the existing structure once a new one is built, seismic analysis, approach work, replacement or relocation of utilities, and an environmental impact study, EIS. Also involves multi-agency coordination involving New York City Department of Parks, New York City Planning Commission, and NYC Arts Commission, Public Outreach, Uniform Land Use Review Procedure (ULURP), and CEQR process.

New Jersey Turnpike Authority, Hudson County Extension Bridge Deck Repair, NJ

Principal-in-charge for the supervision of construction services for Contract No. R-1347 involving the replacement of the existing parapet/safetywalk configuration with Jersey shape parapets, as well as roadway shoulder widening and asphalt resurfacing on existing structures and roadways.

SAM MODY, PE

Role:
Program Manager

Firm:
HNTB

Education:
MS, 1988, Civil Engineering, Drexel University

BS, 1983, Civil Engineering, Drexel University

Registrations:
Professional Engineer:
NJ/1995, #[redacted]
PA/1994, #[redacted]
DE/1997, #[redacted]

Affiliations:
American Society of Highway Engineers

Southern NJ Section Board of Directors, 1991 – Present

Steering Committee Advisor for 2007 ASHE National Conference;

Charter Member of NY Metro Section established in 2005.

Elected as ASHE New Sections Chairman

American Council of Engineering Companies - Deputy Transportation Chairman

American Society of Civil Engineers

Years of Experience:
27

Sam has more than 27 years of experience in the administration, management, design, and construction of civil/transportation engineering projects, balanced equally between design and construction. He has served in the capacity of design/construction engineer, senior project manger, constructability review team leader, resident engineer for 12 years, and QA/QC manager on numerous projects during his career for the NJ Turnpike Authority, NJDOT, DRPA and Port Authority of New York and New Jersey, and NJ MPO's /Counties. His project experience includes:

New Jersey Department of Transportation, Alexander Road Bridge Replacement over Amtrak Northeast Corridor (NEC), West Windsor Township, NJ

Project manager responsible for the management of resident engineer and inspection staff; attendance and recording of minutes from bi-weekly progress meetings; monthly reviews of contractor's primavera schedule; review of shop drawings, RFI's, and monthly estimates; and evaluation of value engineering requests submitted by the contractor. His duties began during the design phase which included final scope development, preliminary and final designs of roadway, structure (bridge and retaining walls), landscape, electrification-traction (ET), and ROW contract documents. In addition, he assisted the NJDOT during the constructability workshop, pre-bid meeting, and pre-construction conference prior to awarding the contract to the IEW Construction Group. This $24 million, heavy-highway project included the construction of a new, single-span bridge over the Northeast Corridor, a roundabout intersection, pile foundations, HPC deck, catenary/transmission lines, three new retaining walls, and extensive utility relocations.

Pennsylvania Department of Transportation, S.R. 4006, Section 76S, Reconstruction of City Avenue, Philadelphia, PA

Project manager responsible for contract administration and management of the following activities: provided appropriate support staffing to execute the project; supervision of resident engineer, field inspection, and office engineering staff; interfaced with PennDOT field manager and contractor; prepared/monitored project reports, budgets, and invoices; attended and recorded minutes from bi-weekly progress meetings; performed reviews of contractor's master and monthly updated primavera schedule; reviewed contractor's RFIs and value engineering requests; and participated in dispute-resolution analysis at the request of the owner. This $15 million heavy-highway project included the construction of one new prestressed concrete bridge (Ramp D/Lincoln and Kelly Drives), rehabilitation of one bridge (SB City Ave. Schuylkill River and NS Railroad), substructure repairs, HPC decks, nighttime work; utility relocations, and complex MPT.

South Jersey Transportation Authority, Widening of Atlantic City Expressway (ACE), City of Pleasantville, NJ

Project manager serving in an oversight capacity and extension of SJTA's staff during the design and construction of the 3-mile ACE widening project. Construction supervision duties included management and oversight of resident engineer, inspection, and office engineering staff;

SAM MODY, PE (CONTINUED)

Employment History:
2009 - Present
HNTB Corporation

2007 - 2009
URS Corporation

1999 - 2007
Urban Engineers, Inc.

1996 - 1999
Dewberry/Goodkind & O'Dea

1993 - 1996
Geotrack, Inc.

1990 - 1993
Gannett Fleming, Inc.

1983 to 1990
NJDOT Bureau of Construction

attended and recorded minutes from bi-weekly progress meetings; review of contractor's master and monthly primavera schedule updates; review of shop drawings, RFI's, and monthly pay estimates; and provided recommendations to construction modifications proposed by the contractor to expedite the schedule. This $30 million heavy-highway project included roadway and structure widening (nine-span McGahn Bridge over Beach Thorofare) for a six-lane section; widening of two culverts; new beam erection onto widened pier; HPC deck construction; upgrades to roadside safety; new drainage in accordance with NJDEP stormwater regs; new signing; and utility relocations. PMO duties began in 1999 with constructability reviews of 30-, 60-, and 90-percent submission contract documents, technical support of design activities, assistance with review and execution of permit applications, design schedule oversight, and coordination with design engineers associated with adjacent AC-BC Design/Build and AC Visitors' Center construction projects.

New Jersey Department of Transportation, Reconstruction of Route I-295 Interchange 18, Salem County, NJ

Project manager responsible for providing support staffing, supervision of field and office staff, interfacing with the resident engineer/NJDOT/contractor, review of shop drawings and monthly pay estimates, and preparation/monitoring of project budgets and invoices. This $17 million heavy-highway project consisted of the demolition and replacement of two bridges that carried CR 667 and CR 678 over I-295. The interchange ramp system was reconfigured and channelized, including significant amounts of roadway widening and reconstruction.

New Jersey Department of Transportation, Route 133, Hightstown Bypass (D/B Project), Mercer County, NJ

Highway design team leader assigned to NJDOT's first modified Design/Build project. This $75 million project included the design and construction of the proposed Route 133, Section 1A Hightstown Bypass. This 3.8-mile, four-lane divided controlled-access highway provided two lanes of traffic in each direction separated by a grass median, with appropriate shoulders, auxiliary lanes and superelevation commensurate with the established design speed. The new highway commenced at the intersection of County Road 571 and Windsor Drive in East Windsor, heading in an easterly direction around Hightstown, crossing the New Jersey Turnpike (vicinity of Interchange 8), and terminating at the intersection of Route 33 and Milford Road in East Windsor Township. This project provided one new at-grade signalized intersection, three intersection modifications, seven bridges (six dual structures) which cross arterial roadways and drainage waterways, 14 sign structures, five noise barriers, relocation of two local roads, and milling, resurfacing and widening of the intersecting streets. Major revisions were made to the project alignment, landscaping and noise walls based upon extensive partnering with the local community. Innovative designs incorporated into the project include the use of stub abutments atop modular retaining walls, jointless bridge decks, integral backwalls, and steel shell foundations for noise barriers and sign structures.

JONATHAN GOLDSTICK, PE

Role:
Program Manager

Firm:
Halcrow

Education:
BSc, 1980, Ocean Engineering, Massachusetts Institute of Technology

1976-1978, Ocean Engineering studies, U.S. Coast Guard Academy (No Degree)

Registrations:
Professional Engineer:
NY/1985, #[redacted]
NJ/2009, #[redacted]

Affiliations:
American Society of Civil Engineers, Member

Society of American Military Engineers, Member

Society of Naval Architects and Marine Engineers, Member

Years of Experience:
30

Employment History:
1995 - Current
Halcrow

1989 - 1995
Frederic R. Harris, Inc

1980 - 1989
American Bureau of Shipping

Jonathan has 30 years of domestic and international experience in waterfront engineering and project management. He has been involved in the design, analysis, construction, rehabilitation, and installation of a wide variety of waterfront structures worldwide. His expertise also includes project management and engineering support for urban waterfronts. He has served as principal-in-charge of "on-call" contracts with the Authority for the design of waterfront structures and the inspection of waterfront structures, as well as with the New York City Economic Development Corporation and the Hudson River Park Trust for marine engineering services. His project experience includes:

Port Authority of New York and New Jersey, "On-Call" Waterfront Condition Surveys, NY and NJ

Principal-in-charge of "on-call" engineering services for condition surveys of waterfront facilities. Jonathan oversaw the regular maintenance work and emergency response inspections for waterfront facilities of various types and constructions. Typically, these projects entailed 100 percent visual inspection of all structural elements and ten percent detailed inspection of select elements. Detailed inspections included cleaning of the structural elements, ultrasonic thickness measurement of steel, sounding of concrete, and evaluation of timber elements with regard to the presence of marine borers.

Port Authority of New York and New Jersey, "On-Call" Marine Structural Engineering Services, Engineering Division, New York, NY

Principal-in-charge and project manager for "on-call" professional engineering design services for waterfront structures in New York Harbor. Services provided include assessments and repairs to existing structures and the design of new structures including bulkheads, and low and high level piers. Projects were generally part of an on-going maintenance program, but there have been numerous emergency response projects often resulting from vessel collision.

Port Authority of New York and New Jersey, Regional Private Ferry Study, New York, NY and New Jersey Harbor, NJ

Project director for the Halcrow-led review and market analysis of existing and potential private ferry services in the greater NY and NJ Harbor. The study examined how ferry service is currently funded, what role ferry service plays in the regional transportation network, the public and private sector roles in ferry transportation, and what funding and financing options are available. The potential for new routes was explored. Study findings helped guide strategies to better integrate ferries into the regional transportation network and enhance the financial stability of the privately-operated ferry services.

Brooklyn Navy Yard Development Corporation, Brooklyn Navy Yard Rehabilitation, Brooklyn, NY

Project manager for the rehabilitation of Berths 1A, 8, 8A, 8B, 9, 9A, 10, 10A and structures at the small boat basin. The majority of the struc-

JONATHAN GOLDSTICK, PE (CONTINUED)

tures are timber relieving platforms between and at the entrances to the dry docks. The timber had deteriorated from rot and marine borer attack. Various repair scenarios were developed, and detailed designs were prepared for repairs that included the removal of all fill, encasement of piles, and re-filling with lightweight concrete to seal the relieving platform floors. The project began with detailed underwater inspections of the 19 structures for which only limited documentation existed.

Hudson River Park Trust, Hudson River Park Parkwide "On-Call", New York, NY

Principal-in-charge of the inspection, engineering, design, and construction administration services for the marine structures throughout the full length of the Hudson River Park, a five-mile park stretching along the Hudson River. Jonathan had final authority for all work performed, including condition surveys to monitor structures that were scheduled for replacement, inspection and rehabilitation design of structures that were to remain in use by the park, inspection and design of demolition plans for structures that were to be removed, and monitoring of pile fields for previously demolished piers. Structures inspected included timber and steel pile supported piers, granite block seawalls, and timber pile fields.

National Parks Service, Battery Park Pier A, New York, NY

Project director for ferry transportation issues at Pier A. This included developing layouts for secure docking of passenger ferries using a floating barge option, as well as examining the transition of passengers from the National Parks Service's security screening facility within Pier A onto the ferries to Liberty and Ellis Islands. Halcrow conducted extensive research to determine key stakeholder interactions as well as to obtain ferry sizes and preferred layout options, likely and projected passenger volumes, structural information related to securing the docking barge and the ferry, ferry operations schedules (numbers of ferries, frequency, timing and staggering of ferry arrivals), and other related information to develop a circulation strategy.

New York City Economic Development Corporation, "On-Call" Marine Engineering Services, New York, NY

Principal-in-charge for comprehensive "on-call" marine engineering services for waterfront sites in all five New York City boroughs. Jonathan ensured that all services were performed including above and underwater inspections; condition evaluations; recommendations for maintenance; preparation of designs, drawings, and specifications for repairs; cost estimating; and inspection of construction.

ALAN WALLER, PE

Role:
Port Commerce Project Manager

Firm:
Halcrow

Education:
BS, 1979, Civil Engineering, Manhattan College

Registrations:
Professional Engineer:
NY/1988, #[redacted]
CT/1988,

Affiliations:
American Society of Civil Engineers

Years of Experience:
31

Employment History:
1997 - Current
Halcrow

1993 - 1997
D & Z Utility Services, Inc.

1992 - 1993
Delta Electric Corp.

1991 - 1992
New York Power Authority

1998 - 1991
Visco Engineering

Alan is an expert professional engineer with more than 31 years domestic and international experience in the areas of project and construction management, engineering design, and field supervision specializing in waterfront and land based projects. His experience includes new and retrofit construction of piers, bulkheads, petrochemical plants, fossil and nuclear power plants. Specific areas of expertise include the analysis and design of marine structures, value engineering, design project supervision, construction planning, and construction management.

Alan is the recipient of numerous awards from the American Council of Engineering Companies, New York, including the Diamond award for design of the ferry landing and enclosed pedestrian ramps for the Pier 79 West Midtown Ferry on the Hudson River; Diamond award for the Reconstruction of Pier 86 on the Hudson River which required the replacement of the entire pier where the Sea Air and Space Museum's Aircraft Carrier "Intrepid" is berthed. He has also been awarded the Gold award for the Hudson River Park Piers & Esplanade and the Staten Island Yankees Esplanade projects.

Currently, Alan is serving as project manager for the Glen Cove Ferry Terminal Design, project director for the Norfolk Shipyard Berth Rehabilitation, as well as project manager for "on-call" services contract providing waterfront engineering services to the New York City Economic Development Corporation. His project experience includes:

City of Glen Cove/State of New York, Intermodal Ferry Terminal, Hempstead Harbor, Long Island, NY

Project manager for the construction of a new terminal, accommodating two ferries and many recreational boats, and is designed to act as a transportation center. Responsibilities included a ferry terminal building, new marine waterfront structures and esplanade, a parking area, associated infrastructure appurtenances, as well as access improvements along local roads. Construction documents were prepared and all construction phase services and waterfront aspects of the terminal will be provided.

New Jersey Department of the Treasury, Liberty State Park Ferry Terminal Fender Rack 2 Reconstruction, NJ

Project manager for the reconstruction of the badly deteriorated timber fender rack No.2 with a new modern pipe pile supported reinforced concrete fender platform with timber panel facing. Project included design bidding, shop drawing review, and construction supervision.

Intrepid Sea Air Space Museum, Intrepid Pier 86 Reconstruction, New York, NY

Project director for the home of the Sea Air Space Museum's Aircraft Carrier "Intrepid." Deterioration of the substructure requires replacement of the outer 782 feet of the 1,000-foot-long by 150-foot-wide pier at which the 27 K ton, 872-foot-long Intrepid is berthed. The design

ALAN WALLER, PE (CONTINUED)

meets the latest seismic criteria and includes fenders and mooring hardware for the Intrepid and other transient military vessels. The pier also functions as a park.

U.S. Navy, Naval Weapons Station Earle Pier Reconstruction, Colts Neck, NJ

Project manager during final mechanical, electrical, and rail construction of Pier 3 and steam plant replacement on Pier 4. Responsibilities included installation of three new package steam boilers, water treatment system and all new high pressure steam supply system piping and controls, as well as punch out of all pier fire protection, rail tracks and building structures on Pier 3.

Queens West Development Corporation, Queens West Waterfront Development Stage 2, Queens, NY

Project manager for preparation of the engineering design for replacement of approximately 1,900 linear-feet of the East River bulkhead. The previous shoreline consisted of various structures including relieving platforms, timber cribs, and riprap slopes. The new waterfront includes a wetlands area, high level platforms, and new tied back steel sheeting outboard of the timber crib structures. Responsibilities included performing condition surveys, bathymetry, permitting, and detail design.

United States Coast Guard, Pier 4 Reconstruction, Cape May, NJ

Project director for this design-build project which included the partial demolition and reconstruction of Pier 4, a severely deteriorated timber pile-supported pier at the United States Coast Guard Training Center. The reconstructed pier is a steel pipe pile-supported pier with precast concrete caps, prestressed precast concrete deck planks, and a reinforced concrete deck. Additional features included precast concrete utility trenches and provisions for mechanical and electrical services for berthing vessels.

New York City Economic Development Corporation, Pier 79 West Midtown Ferry Hudson River, New York, NY

Project manager for a floating ferry landing that accommodates seven ferries of various dimensions and configurations (side loading and end loading). The terminal building is supported on a rehabilitated pier. Work included inspection and design of repairs to existing waterfront structures and the design of a 314-foot by 30-foot floating ferry landing and enclosed pedestrian ramps linking the building with the landing.

BILL PAPARIS, PE

Role:
Port Commerce Project Manager

Firm:
Halcrow

Education:
MS, 1976, Civil Engineering, Columbia University

BS, 1975, Civil Engineering, Columbia University

Registrations:
Professional Engineer:
NY/1980,
NJ/1988,

PADI Scuba Diver Certification/1982

Years of Experience:
34

Employment History:
1984 - Current
Halcrow

1981 - 1984
Exxon Research and Engineering

1976 - 1981
Burns and Roe, Inc.

Bill has more than 33 years of experience on many marine related projects involving structural inspection, rehabilitation, upgrades and new construction design, planning, cost estimating, and construction management. His background includes inspection diving, as a certified diver, and on-site construction management for marine and waterfront projects. Bill has served as manager of the inspection department and is currently manager of Maritime Structures Group. His project experience includes:

Port Authority of New York and New Jersey, New York Marine Terminal Piers 6, 7, 8 and Bulkhead 9B, Brooklyn, NY

Project director for inspection and design of repairs to Piers 6, 7, 8 and Bulkhead 9B. The work included repair of concrete extension on timber piles, plating repairs to steel sheet piling, and installation of a new steel sheet pile bulkhead.

U.S. Navy, Norfolk Naval Shipyard, Pier 3 and Berth 25, Norfolk, VA

Lead structural engineer for design of Pier 3 and Berth 25 for the Atlantic Division of the US Navy. The pier is to accommodate aircraft carriers, submarines, and all other classes of Navy vessels. The work included the evaluation of numerous alternatives, including platform structures and bulkheads. The options of replacement and building outboard of the existing structures were evaluated.

U.S. Navy, Naval Weapons Station Earle Pier Replacement, Colts Neck, NJ

Assistant project manager for the $134 million replacement of an ammunition loading pier. Work involved steel pipe piles, precast concrete caps, a composite prestressed/cast-in-place concrete deck, fender systems, mooring fittings, dredging, mechanical and electrical works, and buildings.

Port Elizabeth Marine Terminal Upgrade, APM Terminals North America, Elizabeth, NJ

Project manager and lead structural engineer responsible for improvement of 6,000 linear-feet of wharves. The work included the strengthening and deepening of the wharves by provision of a sheet pile cut off wall and new crane foundations to accommodate 152,000 LT container vessels, and super-post-Panamax container cranes.

Global Container Terminal Extension, Weeks Marine, Bayonne/Jersey City, NJ

Project director and project manager for a 900-foot extension to Global Container Terminal. The major challenge of the project is spanning over an existing storm water sewer outfall which runs at an acute angle to the length of the wharf. In order to accomplish this, a 190-foot-long by ca. 30-foot-deep steel truss was designed to span over the outfall pipe and support the waterside crane rail. Resilient high energy absorption rub-

BILL PAPARIS, PE (CONTINUED)

ber fenders and 150-ton capacity bollards were provided along the face of the wharf. The scope of work also included electrical and mechanical utilities and pavement design.

Choctaw Point Container Terminal Development, APM Terminals North America, Mobile, AL

Project director/project manager for planning, design, engineering, and construction supervision for a new container terminal. The work includes final planning and layout of the terminal and gate, considering future expansions. Detailed design was performed for an administration building, maintenance building, longshoremen's shelter, and several smaller buildings and gate. In addition, design of the container yard, including grading, paving, storm drainage, fire water, domestic water, sewage, electrical, and communications, was carried out. The work also included full time resident engineering and construction support services.

New York City Economic Development Corporation, Passenger Ship Terminal Redevelopment, New York, NY

Project director for redevelopment design including pile repairs and structural upgrades to existing Piers 88 and 90, and the addition of new pile supported concrete decks with fendering along each side of the existing piers. Master planning included development of construction alternatives, phasing concepts, and project costs. The terminal was designed to berth a variety of cruise ships including the QM2.

New York City Economic Development Corporation, Cruise Ship Terminal, Brooklyn, NY

Project director for design of upgrades to Pier 12 to convert the facility from a general cargo pier to a cruise terminal.

Port Authority of New York and New Jersey, Howland Hook Container Terminal, Staten Island, NY

Project manager for detailed design to expand and upgrade the Howland Hook Container Terminal. The major elements of the project included strengthening of the northernmost 945 feet of the existing wharf to permit future dredging, a 300-foot extension of the wharf to the north and a 175-foot extension to the south. The design relied on the installation of new high capacity steel pipe piles to resist sufficient vertical load so as to make it unnecessary for the existing outboard row of piles to resist any load. Steel sheet piling was to be driven and supported by these new pipe piles, to stabilize the dike below the wharf.

JACK LUO, PE, PHD

Role:
Port Commerce Project Manager

Firm:
Halcrow

Education:
PhD, 2000, Geotechnical Engineering (ABD), University of Connecticut

MS, 1995, Geotechnical Engineering, University of Connecticut

MS, 1987, Structural Engineering, Southwest Jiatong University

BS, 1985, Civil Engineering, Changstra Railroad Institute

Registrations:
Professional Engineer:
NY/2001, #[redacted]
CT/1997, #[redacted]

Years of Experience:
21

Employment History:
2001 - Current
Halcrow

1998 - 2001
Mueser Rutledge Consulting Engineers

1995 - 1998
American Consulting Engineers, PLC

Jack is a structural engineer with more than 21 years of experience in the design and analysis of marine and waterfront structures, geotechnical, mass transit, tunnel, bridge and building foundations, railroad facilities, sewage treatment plants, support of excavation, underpinning, cut and cover, slurry wall, cofferdams, piling and steel reinforced concrete structures. His background includes computer modeling of structures. His project experience includes:

United States Navy, Craney Island Fuel Pier Replacement, Norfolk, VA

Structural engineer for the replacement of Fuel Pier D. Halcrow provided an update to the DD 1391. The scope of work included review of existing drawings and the facility operation, followed by the development of conceptual arrangement and structural drawings. Engineering calculations were developed to validate the concept drawings and provide further data to develop the cost estimate. A Basis of Design document was drafted to document the assumptions and conceptual design. Upon completion of these steps, a cost estimate was developed that accounted for the sequence of construction and followed the conceptual plan. Percentages for various overhead costs were included, plus escalation for the year 2010. Profit, contingency and other fees were included as directed by the Navy.

Hudson River Park Trust, Hudson River Park Pier 25 Replacement, New York, NY

Lead structural/geotechnical engineer responsible for the rehabilitation of Pier 25. The project consisted of demolition of the existing pier and the detailed design of the new pier replacement and platform. The completed project is a public recreation area including pedestrian areas, sports areas and water access.

APM Terminals North America, APM Terminal Berths 82-98 Wharf Improvements, Elizabeth, NJ

Lead geotechnical engineer and structural engineer for conceptual design for approximately 6,000 linear-feet of cutoff wall to provide for future dredging to elevation -50 feet, and strengthening of the wharves to accommodate larger container cranes. Detailed designs were prepared for the first three phases of the work (approximately 3,500 lin ft), and detailed designs for the remaining two phases are to be carried out in the future. The designs consisted of a combination H-Z system cutoff wall, new pipe piles, and H-piles in combination with existing H-piles to support the larger container cranes.

United States Navy, Pier 3 Replacement, Portsmouth, VA

Structural engineer for the replacement of Pier 3 under the indefinite quantity contract to provide waterfront engineering services to the Atlantic Division of the Naval Facilities Engineering Command. Halcrow prepared the DD1391 planning documentation for the demolition and replacement of the Ship Repair Pier 3 (49m by 317m) and Quaywall

JACK LUO, PE, PHD (CONTINUED)

Berth 25 (90m long) at the Norfolk Naval Shipyard and negotiated with LantDiv for the detailed design of this $70 M project. The project included new precast, prestressed concrete sheet pile walls, precast prestressed concrete support piling, precast and cast-in-place concrete relieving platforms, fendering and heavy weather mooring systems, replacement of crane runways and railroad tracks, new mechanical and electrical utility systems, dredging and site improvements. The work also included the demolition of ten buildings and the reconstruction of a saltwater pump station and restrooms.

United States Navy, Norfolk Naval Shipyard Dry Dock 8 Extension, Portsmouth, VA

Lead structural engineer for the arched extension of existing Dry Dock 8 to service future generation aircraft carriers. Project included the design of 75 feet deep cofferdam, demolition and reconstruction of pile-supported mass concrete slabs and walls/abutments, replacement of crane rails/rail foundations, and extensive underground utilities.

United States Navy, Norfolk Naval Base Vessel Collision Protection, Portsmouth, VA

Structural engineer/project director for the evaluation and preliminary design of standard anti-terrorism vessel collision structures for the US Navy to protect Navy vessels in berth from direct impacts by terrorist-controlled combatant vessels. The project called for developing a cost effective structural system that will safely absorb all of the energy, and bring to a stop, combatant vessels up to 100,000 t displacement traveling at velocities of up to 15 knots.

Project director for the development of a low cost continuous security barrier system to encircle naval port facilities and provide protection from attacks by small, agile, explosive-laden speedboats. The structure will prevent small boats between 5 and 25 tonnes traveling at velocities of up to 45 knots from entering restricted naval port zones.

Owens Corning South Dock Rehabilitation, Kearny, NJ

Lead structural/geotechnical engineer for the work which included design of 300 linear-feet anchored combined wall bulkhead, H-pile supported deadman anchorage system, pipe pile supported platform, precast framing, fender system, slope stability analysis, existing timber pile repair, demolition of existing bulkhead and construction staging/phasing.

ANDREW CHIURAZZI, PE

Role:
Aviation Project Manager

Firm:
HNTB

Education:
BS, 1988, Civil Engineering, New Jersey Institute of Technology

Continuing Education: Introduction to NEPA Requirements and Procedures, 1997

Pavement Management for Airports Roads and Parking Lots, 1995

Federal Aviation Administration Airport Conferences, 1989-2003, 2008

Application of the FAA's Eastern Region Laboratory Procedures Manual, 1989

Registration:
Professional Engineer:
NY/2008, [redacted]
NJ/2000, [redacted]
DE/2006, [redacted]
CT/2006, [redacted]
AZ/2006, [redacted]
RI/2006, [redacted]

Years of Experience:
22

Andrew is an airport engineer with more than 22 years of experience performing all aspects of design, program administration and on-site supervision services for a multitude of airfield related construction programs. He has considerable expertise performing both program and construction management, including the supervision of engineering staff as well as an extensive history of aviation related design. He is extremely well versed at identifying both site-specific and facility-wide operational dilemmas and developing and implementing situational solutions to such matters. He is skilled in executing essentially all aspects of program and construction management responsibilities from overseeing project cash flows and tracking quantities, to scheduling and all facets of construction supervision, inspection, testing, and contract administration. Additionally, Andrew has also been responsible for the code review and approval process, along with the subsequent field oversight, of substantial tenant projects performed at a variety of aeronautical facilities. Andrew has coordinated the application process for attaining both Federal and State project funding. He has been responsible for the evaluation of aeronautical pavement sections and the subsequent implementation of associated pavement management programs. Andrew has been charged with the design coordination of numerous airside and landside construction projects at multiple facilities throughout the Northeast. His project experience includes:

Port Authority of New York and New Jersey, Newark Liberty International Airport, Terminal B Modernization Program

Project manager for the Port Authority's Terminal B Modernization Program. In this capacity, he was originally responsible for the transformation of the existing mid and upper departures levels of the facility, as well as the expansion of the existing meter-greeter hall. The original scope of the program called for the relocation of the domestic baggage claims facilities to a new lower level, shifting domestic ticketing to the mid-level and devoting the upper level to international departure ticketing. On the upper level, the existing ticketing positions and baggage belts were to be pushed back from their original locations resulting in enlarged queuing areas and increasing the total number of international ticket counters by capturing the positions currently used for domestic departures. "Back-of-house" airline office space was relocated to newly created mezzanine areas constructed above the new international ticketing counters. Similarly, the domestic baggage claim area on the mid-level was slated to be relocated to a newly created lower level freeing up space to accommodate up to sixty additional ticketing positions with ample room for queuing in front of the counters.

Subsequent project workload associated with the Terminal B Modernization Program, included the responsibilities of project management for several undertakings at EWR, in support of the Port Authority's Project Management and Aviation Departments. Those additional endeavors included both the upgrade and ultimate replacement of the Terminal B fire alarm system, improvements to the existing vertical circulation at Terminal A, the replacement of the Terminal B baggage information display

ANDREW CHIURAZZI, PE (CONTINUED)

Employment History:
2009 - Current
HNTB Corporation

1998 - 2009
The Louis Berger Group

1988 - 1998
Pan Am/Johnson Controls/AvPorts

system (BIDS), improvements to the Terminal B & FIS lighting controls, planned improvements to the FIS Hall and renovations to the contiguous U.S. Customs and Border Protection (CBP) facilities, studying the drainage systems inherent to the Terminal B satellite bay rooms, modifications to the CBP ship's and hologram offices, resurrection of the third phase of the Southern Access Roadway project and the proposed planning associated with the inclusion of additional baggage facilities at Terminal B.

Port Authority of New York and New Jersey, Redevelopment Program, Newark Liberty International Airport, Newark, NJ

Project manager for the Authority's Redevelopment Program where he was responsible for overseeing all aspects of the planning, design and construction of Continental Airlines' expansion of Terminal C at Newark International Airport. The work, exceeding $620 million in development costs, included the modifications to the existing Terminal to incorporate a new, at-grade arrivals and multiple departures levels, as well as the construction of a new C3 concourse, 1,500 passenger/hour Federal inspection facility, a 134-foot operations control tower, expansion of the existing terminal over the airside restricted service road resulting in a double-height airside corridor connecting all three concourses, and the construction of a new outbound baggage handling facility. As a component to managing the Continental Airlines program, workload, Andrew facilitated the internal Port Authority distribution and review process of all of the tenant alteration application (TAA) documentation which resulted in more than 100 different design packages being eliminated from the daily workload of the EWR TAA liaison and the reorganization of the overall process to include "review by appointment" procedures. Andrew also managed the implementation of a 30-acre airside expansion project at EWR providing for additional remain overnight (RON) aircraft parking and the repositioning of existing parallel taxiways to accommodate simultaneous larger aircraft operations as well as modifications to the existing taxiway system to provide for enhanced aircraft circulation in the vicinity of the remodeled Terminal C.

Port Authority of New York and New Jersey, Construction of Taxiway 'RL', Newark Liberty International Airport, Newark, NJ

Project manager responsible for the construction of two taxiway throats to accommodate the newly constructed C3 Concourse at Terminal C to support the operation of the new facility. The project also included the resurfacing of existing Taxiways 'W' and 'Y' within the vicinity of the new taxiway throats.

Port Authority of New York and New Jersey, Relocation of Taxiway 'U', Newark Liberty International Airport, Newark, NJ

Project manager tasked with the relocation of a portion of an existing taxiway to help facilitate operations on the western side of the airport and up to the approach end of Runway 11. The work also included the elimination of the depressed roadway system which served as the access point for the original Port Authority Administration Building and FAA Air Traffic Control Tower.

NICHOLAS SALERNO, PE

Role:
Aviation Project Manager

Firm:
HNTB

Education:
MS, 1977, Industrial Engineering, Auburn University

BS, 1976, Industrial Engineering, Auburn University

Air Command and Staff College

AF Squadron Officers School

Registrations:
Professional Engineer:
NY/1991, #[redacted]
FL/1986, #[redacted]
CO/1988, [redacted]
PA/1991, [redacted]

Certified Project Manager

Affiliations:
National Society of Professional Engineers

Society of American Military Engineers

Years of Experience:
32

Nicholas has more than 32 years of experience in airport program and construction management, planning, development, execution, control; and engineering & operations management for programs in excess of $4 billion. He is a result-oriented professional who excels in long-range planning that reduces operating costs and increases profitability. Nicholas is an experienced leader responsible for saving clients more than $100 million annually. He exercises sound judgment in high-pressure situations. He is an advisor to client senior management on risk, claims recovery, and program issue resolution. He is a convincing oral and written communicator with a proven track record of gaining consensus on solutions to complex problems within an international and domestic context. His project experience includes:

Newark Liberty International Airport, Terminal A Modernization and Expansion Program, Newark, NJ

Assistant director of this $2.5 billion aviation program management, bringing his experience with other airports such as Logan International Airport in Boston, MA, the Ft Lauderdale-Hollywood International Airport, FL and USAF airfield facilities to add another dimension to the program's planning, design development, and management team, as well as, prepare the Terminal A Team for the anticipated design and construction of the terminal. His responsibilities include managing a diverse group of engineers, environmentalists, airport planners, and architects while advising the Port Authority of New York and New Jersey on Airport Engineering matters for the design and ultimate construction of a new 45 gate replacement of the current Terminal A, new parking facilities, ramps, taxi lanes, taxiways, runways, and roadways to meet the anticipated future increase in passenger demand.

Ft. Lauderdale-Hollywood International Airport, Ft. Lauderdale, FL

Program operations and controls manager, and senior project manager for this $1.2 billion airport expansion program. He developed and executed policies and procedures to control cost, schedule, and contract changes to ensure program and project completion on time and within budget. Nicholas provided program management oversight, and coordination among the project managers, designers, and contractors. He was the lead contract negotiator for construction and design contracts and optional services. He directed project managers and accountants in program field operations, personnel management, training, program and project analysis, resource planning and utilization, budget analysis and control; cost tracking & analysis; sources and uses of funds; invoice processing, change order control; and reporting. Facilities included runways, taxiways and aprons, terminals and concourses, roadways, maintenance and administrative.

United States Air Force, Air Force Reserve and Air National Guard Utility Outsource Program, Destin, FL

Program and operations manager responsible for directing staff engineers, legal and technical personnel in the analysis of Military Base Utility Systems to determine the feasibility of privatizing the function.

NICHOLAS SALERNO, PE (CONTINUED)

Employment History:
2009 - Current
HNTB Corporation

2007 - 2009
Louis Berger Group, Inc.

2000 - 2007
URS Corporation

1999 - 2000
The Onyx Group

1996 - 1999
O'Brien - Kreitzberg, Inc.

1993 - 1996
Salerno Engineers & Assoc. Inc

1990 - 1993
NYC Health and Hospitals Corporation

1977 - 1990
United States Air Force

Logan International Airport, Airport Modernization Program, Boston, MA

Deputy program coordinator and program controls manager, providing program management oversight, coordination with the program designers, project contractors, and the Massachusetts Port Authority for the $1.4 billion construction and renovation program. He was responsible for the evaluation of potential changes and recommending solutions to senior airport management. He directed engineers in project management, program master planning, schedule development and analysis, cost tracking & analysis, and reporting.

Port Authority New York and New Jersey, World Trade Center (WTC), Bomb Damage Recovery, New York, NY

Corporate president, program & technical risk manager, and advisor to the Port Authority New York and New Jersey Recovery Team on claims, resolutions to technical and financial recovery issues related to the early recovery of the WTC Complex of high-rise office facilities, a $275 million project. He established a joint technical advice group with insurance representatives to coordinate and validate data, and developed technical and financial data for claims justification.

New York City Health and Hospitals Corporation, Hospital Modernization Program, NY

Group director of engineering, design and construction who directed professional engineering and architectural directors in all aspects of this $500 million planning, programming, design, estimating, scheduling, and new construction and renovation of 35 medical facilities under tight deadlines and budgets. He programmed new facility designs and executed construction projects to keep pace with the medical technology and procedures to meet the dynamic needs of both patient and the medical professionals. Facilities include: Emergency Trauma Centers, Neonatal, TB, Labor and Delivery, Laboratories, Substance Abuse/Detoxification as well as Electrical/HVAC modernization, and code upgrade.

United States Air Force Academy, Construction and Renovation Programs, USAF Academy, Colorado Springs, CO

Director of programs who directed engineers, architects and contractors in the development and execution of a five-year, $100 million program to maintain existing and construct new facilities for the Air Force Academy. Saved $7 million annually and justified increased annual funding levels, based on identifiable needs. Facilities include dormitories, classrooms, airfield, and recreation.

TERRY KITER, PE

Role:
Aviation Project Manager

Firm:
HNTB

Education:
BS, 1985, Civil Engineering, Michigan Technological University

Registrations:
Professional Engineer: NY/1992, [redacted]

Affiliations:
American Society of Civil Engineers New York Airport Managers Association

Aviation Council of Pennsylvania

Years of Experience:
22

Employment History:
1992 - Current
HNTB Corporation

1985 - 1992
Greiner Engineering

Terry is a senior project manager in charge of the aviation department in HNTB's New York office. He has more than 22 years of experience in the design, construction and management of aviation (civil and environmental) related engineering projects. Terry has extensive experience in the planning design and construction of airport pavements, utilities, and facilities. His areas of expertise are airfield geometry, aircraft movement, construction staging, portland cement concrete pavement (PCCP) design, asphalt concrete pavement design, de-icing fluid collection and treatment, and environmental permitting issues. He lectures on PCCP design to various professional organizations throughout the Northeast. His project experience includes:

Port Authority of New York and New Jersey, Security On-Call Assignments, Various Locations, NY/NJ

Deputy project manager for this project which involves planning, designing, and engineering support services during construction for security enhancements at all of the Port Authority facilities. In this role, Terry is responsible for ensuring that all of the assignments are delivered on-time, on-budget, and to the client's satisfaction. This project began in 2003 and continues through the present. The facilities worked on in this project include the four airports, all Port Authority bridges, the PATH system, and Port Elizabeth.

Port Authority of New York and New Jersey, New Jersey Airports On-Call Assignments, Newark, NJ

From 1999 until 2004, Terry was the task manager of several large projects at both Newark – Liberty International Airport and Teterboro Airport. This project was a direct result of Continental Airlines Global Gateway program at Newark International Airport, and required significant coordination between the Global Gateway program and the Port Authority's Newark redevelopment program. Most of the work was done while the facilities were in use, and significant consideration of airline customers, airline operating issues, Port Authority Operating issues and constraints and Port Authority vendors.

Port Authority of New York and New Jersey, New Jersey Airports On-Call Assignments, Relocation of Building 51, Newark, NJ

Task manager who supervised the development of plans, specifications, and cost estimates for the sitework and maintenance of traffic required for the relocation of Building 51 - a landmark structure noted for being the first airport terminal in the United States - to the site of two demolished cargo buildings. Plans included utility removals and reconnections, pavement design and repair, and the development of a route to move the building. He also coordinated the efforts of various disciplines including structural, electrical, and architectural.

Port Authority of New York and New Jersey, New Jersey Airports On-Call Assignments, Building 1, Newark, NJ

Building 51 was relocated nearly a mile from its original site. An addition to Building 51 was developed to include more office spaces and an airport rescue and fire-fighting facility and the building was renamed Building 1. As the task manager, he developed plans for the sitework around the relocated building and its new addition including storm drainage, sanitary sewer,

TERRY KITER, PE (CONTINUED)

water supply, electric, gas, communications, site lighting, pavement design, and parking lot layout & signage. Under his supervision, we are provided construction support services including review of submittals and response to requests for information.

Port Authority of New York and New Jersey, New Jersey Airports On-Call Assignments, Teterboro Airport Interim Maintenance Building, Teterboro, NJ

Task manager who developed plans, specifications, and construction cost estimates for a new Maintenance Building at the Airport. Terry supervised the sitework design and coordinated the foundation design and interior architectural and MEP design for a pre-fabricated building supplied by a third party. The sitework involved the design of utilities including electrical, gas, communications, storm drainage, sanitary sewers, and water supply and the design of the staff parking lot and maintenance yard including signage, paint striping, and security fencing, and a fuel island with an above-ground fuel tank. The interior package included the standard elements of a maintenance building including HVAC, plumbing, electricity and mechanical equipment. The maintenance building was programmed for office space, a service garage with storage facilities, and a service shop with storage facilities. Terry also supervised construction support services including review of contractor's submittals and response to requests for information.

Lehigh-Northampton Airport Authority, Terminal Apron Reconstruction, Allentown, PA

Project manager of this multi-phase, multi-year effort to repave the aircraft apron surrounding the Satellite Terminal Building and Concourse at Lehigh Valley International Airport. This work involves analysis of the existing pavement and subgrade soil conditions, design of rigid pavement or flexible pavement, and grading and installation of new drainage structures as necessary to eliminate ponding. All of this work is being designed to allow uninterrupted operations at the terminal, and all of this design takes into account future expansion plans of the terminal, concourse, and satellite terminal.

Port Authority of New York and New Jersey, Newark International Airport, On-Call Assignments, Newark, NJ

Senior engineer and task leader on several projects and Newark-Liberty International Airport for the Port Authority of New York and New Jersey. Projects included:

Lot G Extension

Project manager who supervised the design of bituminous asphalt concrete parking lot pavement, storm drainage, and site lighting. Following the relocation of Building 51, the original site was redeveloped as an extension of an existing long-term parking facility – Lot G.

WILL FLORES

Role:
PATH Project Manager

Firm:
HNTB

Education:
MBA, 2004, Corporate Finance and Strategic Management, Pace University, Lubin School of Business

BS, 1998, Civil Engineering, Manhattan College, School of Engineering

Affiliations:
American Society of Civil Engineers

Society of Hispanic Professional Engineers

American Society of Public Administrator

Years of Experience:
13

Employment History:
2007 - Current
HNTB Corporation

1999 - 2007
MTA

1998 - 1999
Perini

1997 - 1998
NY Power Authority

Will is a senior rail systems transportation manager experienced in planning, design, construction, inspection and project management for major railway transportation, track and facility engineering projects. He has strong skills in planning, organizing, and mobilizing resources to support design projects. Will has experience leading engineering projects for the Port Authority of New York and New Jersey, MTA-New York City Transit, MTA-Capital Construction, MTA-Long Island Railroad, and MTA Metro-North Railroad. He has developed detailed design drawings, specifications, and procurement packages for maintenance facilities and yards, fan plants, track and signals, bus depots, perimeter security bollards, security enhancements for tunnels and transit complexes, and hydrology and ventilation analysis for stations. He is experienced in funding and procedures and contractual constraints, political and legal constraints. He is able to identify and analyze a broad range of multiple interrelated problems and issues, and develop a viable solution as well as excel at interfacing with others at all levels to ensure milestones are accomplished. He has successfully worked with regulatory agencies such as DOT, DEP, SHPO, Landmarks, and Community boards to advance projects His project experience includes:

MTA - Long Island Rail Road, Hall Interlocking – Signals & Power Fire Investigation (GEC Contract), Queens, NY

Project manager to lead the investigation for the signal system shutdown that controls the interlocking east of Jamaica Station. He has coordinated the efforts to review the site condition and draft an investigative report to the cause of the fire within the control tower.

New Jersey Transit, Portal Bridge Capacity Enhancement (PBCE) Project, Secaucus, NJ

Rail systems integration task manager responsible for managing and coordinating the design of the new Northern and Southern long-span bridges replacing the existing swing bridge over the Hackensack River. Work includes track alignment design oversight and ISO QA review; constructability reviews and integration of rail systems components with the structural and civil design. Other responsibilities include preparation of capital cost estimates, construction staging, contract packaging, monitoring and tracking of design budgets.

MTA - Long Island Rail Road, Signals & Communication, Queens, NY

Responsible for managing and coordinating design/construction activities with internal and third-party contractors, as well as coordinated with Contracts and Procurement to award design and construction contracts and change orders. Will coordinated with Force Account (Signal, B&B, Track & Power) Construction to ensure construction work activities are coordinated appropriately, and developed alternatives solutions to unforeseen site conditions to minimize schedule impact. Will managed construction activities and milestones, and developed monthly reports to senior staff on construction activities and progress as well as make certain construction sign-off were completed by designated Force

WILL FLORES (CONTINUED)

Account Department. Will managed technical staff to resolve discrepancies with design consultants and monitored progress and payments to design consultant. Will also managed and prepared responses to internal Quality Audits and Surveillance. He also managed the preparation of schedules, estimates and project controls while working closely to interface project controls with F/A line departments on scope definition to make sure accurate estimates and schedules were maintained as well as manage and prepare RFP's.

MTA - New York City Transit, Contract A-36109 – Flood Mitigation Measures and Design in Brooklyn & Queens, Brooklyn and Queens, NY

Project manager to develop flood design mitigations for seven stations in the boroughs of Brooklyn and Queens. He coordinated the hydraulic analysis to determine stations required for fire safety ventilation. He worked with the industry leaders to develop a three dimensional model for the stations to analyze the smoke dispersion throughout the station, mezzanines, entrances and exits. The analyses were performed to determine the ventilation performance to identify the ventilation gratings to be closed or modified. Will coordinated with NYC DOT and other regulatory agencies to acquire approvals to finalize the design documents. Construction documents were completed and construction expected to be completed by December 2010.

MTA - New York City Transit, Contract A-36107 – MTA NYCT Flood Control Manhattan, New York, NY

Task leader to mitigate flooding vulnerabilities for 79th, 86th, and Chambers Street Station of Broadway-Seventh Avenue Line. He coordinate multi disciplines to analyze ventilation conditions to the tunnels and stations for fire life safety conditions. Computational Fluid Dynamics (CFD) and Subway Environment Simulation (SES) analysis to determine the level of ventilations closures to be implemented. He coordinated a complex group of multi-disciplinary agencies such as NYC DOT, Arts Commission, Landmarks, Community Boards, and Parks department to develop and approve a mitigation concept to prevent flooding to the subway system. A street furniture prototype has been procured thru his efforts and approved with favorable reaction from the NYC city agencies.

Port Authority of New York and New Jersey, Security On-Call Projects, NY/NJ

Task manager for facility projects where he has provided services for site development, facility design, utility coordination, office space renovation, Security K-9 facilities, and police locker facilities. He leads the Architecture and Structural program to support on-call projects for buildings and transportation. He has led projects to develop design contracts for facility renovation, temporary housing for police and K-9 personnel and perform conceptual layouts for police firing ranges.

STANLEY WIECEK

Role:
PATH Project Manager

Firm:
HNTB

Education:
BS, 1961, Mechanical Engineering, City College of New York

Professional Program in Urban Transportation, Carnegie Mellon Institute

Affiliations:
Past President, Metropolitan Railway Club of New York

National Fire Prevention Association

Years of Experience:
49

Employment History:
2005 - Current
HNTB Corporation

1997 - 2005
Amtrak

1996 - 1997
Leher McGovern Bovis

1961 - 1996
Port Authority of New York and New Jersey/ PATH Corporation

With 49 years of experience in planning, railroad operations, maintenance, and major construction projects, Stan has developed expertise in many areas. During his 36 years with the Port Authority of New York and New Jersey and PATH Corporation, he assumed increasing responsibilities, initially involving operations and maintenance, then facility planning, and ultimately, capital program development. Stan provided design support for dozens of PATH and PA major infrastructure projects involving station expansion, railroad and bridge right-of-way improvements, security upgrades, train operations and fare collection systems.

At Amtrak, Stan managed the design development and award of Life Safety contracts, including tunnel emergency ventilation, sub-station expansion, tunnel lighting rehabilitation and rail improvement programs in and around Penn Station New York. His project experience includes:

Port Authority of New York and New Jersey, PATH, Harrison Transfer Yard Facility, Harrison, NJ

Project manager for rail system design to expand PATH's yard tracks in Harrison, New Jersey. Under the Authority's 2008-2010 Civil (Rail) on-call contract his responsibilities include initial design development meetings with PATH's maintenance divisions to integrate requirements of each PATH unit. Initial work involved preparation of procurement documents for new track work, and third rail. Subsequently, scope was expanded to provide contract drawings and specifications for installation of new trackwork by a third party contractor. Key design elements involved track alignment and contact rail design for 10 new turnouts, and a crossover, as well as revisions to existing signal system wireways, cables and equipment.

Port Authority of New York and New Jersey, PATH, Track 52, Waldo Yard, Harrison, NJ

Project manager responsible for rail system design for grading and ballast for Track 52, in PATH's Waldo Yard. Work involves coordination with Jersey City Municipal Utility Authority on existing utilities, as well as an alignment plan for future installation of track and third rail, by PATH forces. This project is under the Authority's 2008-2010 Civil (Rail) on-call contract.

MTA - Long Island Rail Road, Rehabilitation of the Atlantic Avenue Viaduct, Phase I & 2, Brooklyn, NY

Rail task leader for the track and third rail design for rehabilitation of LIRR's Atlantic Avenue Viaduct, Brooklyn, New York. Responsible for the track profile, alignment and open-deck timber details, as part of a 1.5-mile replacement of bridge girders and track structure. He also planned integration of contractor's work with force account personnel to provide timely restoration of track, signal and third rail systems each weekend.

Staten Island Economic Development Corporation, West Shore Light Rail Phase II Study, Staten Island, NY

Task leader for establishing route alternatives, developing a fatal flaw analysis, establishing optimal profile, and preparing preliminary cost esti-

STANLEY WIECEK (CONTINUED)

mates. Scope involved development of station locations, parking areas and facility support locations for vehicle cleaning, inspection and repairs. Considerable time was spent on liaison and review with technical task force, which included the Authority, MTA, New York State Department of Transportation, New Jersey Transit, and local agencies. Project development relied on several open house and community board presentations.

New York Economic Development Corporation, Staten Island Railroad Reactivation, New York, NY

Project manager for design and post-construction reviews. Managed solutions for design of special track work and compressed air system, and reviewed shop drawings and RFI's from contractor. Facilitated design interface for a pedestrian walkway requiring NYCDOT approval. Responsibilities included reviewing operating and maintenance plans submitted by proposed system operator, Conrail Shared Assets. Work involved significant coordination with Authority departments relating to the concurrent rehabilitation of the railroad lift bridge crossing the Kill Van Kull. Scope included new freight yard, new track, replacement of railroad bridges, along with auxiliary systems to support rail operations. Service was inaugurated in April, 2007.

New Jersey Transit, Preliminary Engineering Services, Northern Branch Rail Corridor Project, Newark, NJ

Deputy project manager for an A/E joint venture performing the preliminary design for a new passenger rail service on the Northern Branch Rail Corridor, from North Bergen to Tenafly, New Jersey. His responsibilities involved the design and development of track plans and new passenger stations for a 12-mile right of way. The current phase involves initial surveys, geotechnical investigations and environmental analyses.

Sandia National Laboratories, Radiation Portal Monitors at New York Container Terminal, Staten Island, NY

Project manager for design and construction phase services for a DHS-funded project, that includes radiation monitoring of out-bound truck containers leaving New York Container Terminal, at Howland Hook, Staten Island. He developed the infrastructure required to support experimental detection devices amd was responsible for obtaining TAA approval from the Authority, along with coordination of work between disciplines, client and construction manager.

Port Authority of New York and New Jersey, PATH Corporation, NY

Program manager from 1991 to 1996 who directed staff in the development of multi-million dollar contracts for new construction and infrastructure rehabilitation at the Hudson River crossings and the PATH transit system. He managed the design development and award of seven major contracts, with a project value of $57 million for infrastructure renewal at the PATH transit system.

BENJAMIN HOVEY, PE

Role:
PATH Project Manager

Firm:
HNTB

Education:
BS, 2004, Civil and Environmental Engineering, Bucknell University

Registrations:
Professional Engineer: NJ/2009, [redacted]

Affiliations:
American Railway Engineering and Maintenance-of-Way Association

American Society of Civil Engineers

Years of Experience:
6

Employment History:
2010 - Current
HNTB Corporation

2004 - 2009
Parsons Brinckerhoff

Benjamin is a licensed professional engineer with six years of engineering experience working exclusively in the railroad industry. His background includes experience in the functional areas of track and yard facilities design, special trackwork design, track and railroad system integration, feasibility studies and concept development for railroad and transit systems. His project experience includes:

Port Authority of New York and New Jersey, Harrison Car Maintenance Facility – Rail Transfer Yard, Harrison, NJ

Alignment and trackwork designer responsible for providing preliminary and final design for two areas within the PATH Harrison Car Maintenance Facility. The scope includes providing a new transfer yard in the west area and additional storages tracks in the south loop area. The trackwork design includes horizontal and vertical alignments, contact rail design, modifications to existing tracks as necessary, and development of design documents to procure trackwork materials through the Authority procurement office.

Long Island Rail Road, Amityville, Copiague and Lindenhurst Viaduct/ Massapequa Slab, Amityville, Copiague and Lindenhurst, NY

Engineer who compiled and edited report of slab and viaduct direct fixation condition survey. Ben reviewed published design guidelines and existing direct fixation installations to design loads for fastener specifications. He performed design calculations for direct fixation fastener system in accordance with TCRP Project D-5: Design Guidelines. He also compiled and edited construction specifications for direct fixation fastener replacement program. Additionally, Ben produced staging plans and repair details for direct fixation fastener replacement contract drawings. He performed construction phase services, including review of shop drawings and material submittals, and preparation of meeting minutes for project status meetings. He also made numerous field visits to collect data and analyze the performance of the contractor's alternative method of work.

MTA-Long Island Rail Road, Vanderbilt Yard, Brooklyn, NY

Engineer who analyzed survey data for special trackwork alignment for relocating the LIRR's Vanderbilt Yard to allow for construction of a new arena and mixed use development overhead as part of the Atlantic Yards development project. Ben produced special trackwork drawings for multi-staged storage yard realignment. Coordinated with relevant disciplines to locate contact rails, access roads and insulated joints. Developed 3D model of train dynamic envelop along length of tunnel track for use in verifying clearance to existing and planned tunnel utilities.

Brookfield Properties 9th Avenue Development, 9th Avenue and 31st Street, New York, NY

Engineer who performed conceptual studies and prepared final design documents for the track modifications required to provide clearance to structural supports of a multi-building overbuild west of New York Penn

BENJAMIN HOVEY, PE (CONTINUED)

Station. Ben's services included providing column clearance zones, rail vehicle data, runaway train calculations and hydraulic bumper loads to other project team members. Provided each railroad with waiver documents, clearance studies, track capacity reviews, alignment documents and material estimates for Force Account work.

New Jersey Transit Corporation, Passaic-Bergen Passenger Restoration Project, Passaic County, NJ

Engineer who conducted a project-wide site tour of the 8.7 mile, double- and single-track corridor, to determine the existing conditions at the interface points between existing track and proposed track. Ben annotated alignment drawings based on the results of this site tour and updated material quantities accordingly.

New Jersey Transit Corporation, Trans-Hudson Express Tunnel Project, Hudson County, NJ and New York, NY

Engineer who assisted in production of trackwork and trackway directive drawings and trackwork design criteria, including creation of a project vehicle clearance envelope, during preliminary design of this project to add two new rail tunnels under the Hudson River from New Jersey to New York Penn Station.

Metro North Railroad, Walden Passenger Rail Study, Village of Walden, NY

Engineer for feasibility study of expanding Metro North Railroad service from Port Jervis Station to the Village of Walden located in Orange County, New York. Ben was responsible for collecting data from public and private sources and field visits to create study documents for the existing conditions of the rail infrastructure and right of way of this 10-mile spur.

Port Authority of New York and New Jersey, PATH Harrison Maintenance Shop, Harrison, NJ

Engineer who produced layout plan of electronics shop and potential expansion areas. Ben produced horizontal and vertical alignment of wheel truer shop trackwork.

Metropolitan Transportation Authority/Long Island Rail Road, East Side Access, New York, NY

Engineer who prepared railroad Force Account plans, bill of materials, estimate and task list for track, traction power and third rail from existing contractor/force-account plans for Contract FQA28. Ben prepared technical description and location plans of all tunnel systems work, including track, traction power, communication and signal systems, for use in revising the contracting model for these work items.

NICHOLAS TASSOULAS

Role:
World Trade Center Project Manager

Firm:
HNTB

Education:
MBA, 1991, Finance, St. John's University

MS, 1981, Civil Engineering, Polytechnic Institute of New York

BS, 1978, Civil Engineering, Polytechnic Institute of New York

Years of Experience:
32

Employment History:
2008 - Current
HNTB Corporation

2003 - 2008
AECOM Technology Group (DMJM+Harris)

2001 - 2003
National Railroad Passenger Corporation (Amtrak)

1978 - 2001
Washington Group Int'l. Inc. / Raytheon Engineers & Constructors

Nick is a project manager with extensive experience and demonstrated ability in managing all engineering functions for multi-million dollar programs in both the government and private sectors. Successfully developed, directed and coordinated multidiscipline engineering activities and have managed up to 125 engineering professionals. Expertise spans resource planning, project controls, capital cost estimates, budgets/ schedule formulation and cost containment. Nick has superior negotiation and communication skills resulting in substantial project cost savings. His project experience includes:

Port Authority of New York and New Jersey, World Trade Center Transportation Hub Project, New York, NY

As the World Trade Center Construction (WTCC) – risk management program director, reports directly to the Program Director and leads a staff of six cost estimating, scheduling, cost engineering, accounting, economics and risk analysis professionals, drawn from within the Authority and other consulting firms, including HNTB. His responsibilities include oversight of the risk management program, including evaluation of completeness, consistency, and adequacy of the grantees' program construction cost estimates and schedules, budget development and forecasting, earned-value management and cost allocation of the various Authority projects constituting the program and many other public and private entities impacted by the redevelopment program. Additional responsibilities included the development of effective project control policies and procedures, integrating "best practices" processes, focusing on control and reporting functions, while ensuring compliance with FTA guidelines. The total cost is $14 billion.

Port Authority of New York and New Jersey, World Trade Center Transportation Hub Project, New York, NY

Risk/cost estimating/scheduling/constructibility manager on this $3.4 billion architecturally iconic transit center, providing oversight on all cost estimating, construction scheduling, risk management and constructibility review tasks. Formulated a streamlined cost estimating model that generated standardized bid forms, capturing all attendant labor, material and equipment costs with complete support documentation. Ensured on-time completion for all major design milestone cost deliverables (engineer's construction cost estimates).

National Railroad Passenger Corporation (Amtrak), Fire and Life Safety Program, New York, NY

Managed and efficiently executed all aspects (design and construction) of Amtrak's $900 million Fire and Life Safety (F&LS) Program involving Penn Station and the New York Tunnels.

Hudson-Bergen Light Rail Transit System, Various Locations, NJ

Project engineering manager responsible for the technical oversight of all engineering activities associated with the first $1.5 billion DBOM transit project in the United States for the Hudson-Bergen Light-Rail Transit System (HBLRT).

New Jersey Transit, Newark City Subway Extension, Newark, NJ

Project engineering manager on this $75 million Newark City Subway Extension and Vehicle Base Facility (NCS) project for New Jersey Transit.

HUGH CASPE, PE

Role:
World Trade Center Project Manager

Firm:
HNTB

Education:
MS, 1970, Civil Engineering, City College of New York

BS, 1965, Civil Engineering, City College of New York

Registrations:
Professional Engineer:
NJ/1986,
NY/1971,
CA/1975,
MA/1978,
TX/2002,
KY/2003,

Affiliations:
American Underground Construction Association (Treasurer, Board of Directors)

American Consulting Engineers Council of Massachusetts (Past Chairman of Ethics Committee)

The Moles

American Society of Civil Engineers

Boston Society of Civil Engineers (Past Chairman of Construction Group)

Underground Technical Research

Council (Past Chairman of Contracting Practice Subcommittee)

Throughout his 45-year career, Hugh has led complex underground engineering design and construction projects in Boston, New England, New York City, California and other locations throughout the nation. The value of these projects totals over $6 billion. For these projects, Hugh has applied his expertise in tunnel planning, design and construction management of major multi-discipline transportation (highway and rail), water/wastewater and tunneling facilities. He is knowledgeable in contracting practices, estimating, scheduling, community and client interface, and claims analysis.

Specialized expertise includes:

- Extensive background with soft-ground and rock tunnels and shafts, micro-tunneling, slurry walls, cofferdams, utility relocations, protection of existing structures
- Design, constructability reviews, construction phase services, and maintaining operations of existing services (including traffic, utilities, rail service and access for local businesses)
- Specialized experience in developing plans for dewatering and groundwater control during design and construction phases of projects
- Management of geotechnical investigations and has incorporated geotechnical findings into fully functional engineering design and construction documents
- Risk Management and Claims analysis

Hugh has authored numerous papers regarding tunnel design and construction including those addressing risk management, planning of major tunnel projects, and specialized techniques to address complex subsurface conditions. He is a member of both the Moles and the Transportation Research Board (TRB) Committee on Tunnels and Underground Structures, AFF60. His project experience includes:

Port Aurhority of New York and New Jersey, World Trade Center Transportation Hub, New York, NY

In-house program manager for the design and construction of the HUB portion of the World Trade Center reconstruction, a $6 billion potion of the of massive World Trade Center reconstruction program. The Hub portion of the project encompassed the complete subsurface facility constructed within the expanded bathtub that remained after the 9/11 event. It also included all newly constructed facilities for the new Santiago Calatrava Oculus and Transit Hall serving NYCT, PATH and other facilities. Hugh also was instrumental in the design and construction the MEP systems to support all WTC operations, as well as the bottom-up construction instituted to support and upgrade NYCT facilities all during their continuous operations. Hugh coordinated with numerous stakeholders and third parties involved in WTC's reconstruction.

Georgia Department of Transportation, Atlanta North South Tunnel Atlanta, GA

Tunnel design manager with overall responsible for developing complete engineering study for a 13 mile highway corridor between I-85/SR 400 to I-285/I-675 in Atlanta. Due to the constraints associated with the corridor

HUGH CASPE, PE (CONTINUED)

International Tunneling Association

Recipient, Boston Society of Civil

Engineers' 1994 Ralph W. Horne

Award for Public Service

Years of Experience:
45

Employment History:
2001 - Current
HNTB Corporation

1997 - 2001
Caspe Consulting Company

1996 - 1997
Woodward Clyde

1986 - 1996
Sverdrup Corporation

1980 - 1986
Kaiser Engineering

1977 - 1980
Bechtel Corporation

1971 - 1977
Guy F Atkinson Construction Company (Water Tunnel Contractors)

1968 - 1971
Pavlo Engineering Company

1965 - 1968
Blauvelt Engineering Company

7 miles of the alignment was designed as dual 36-foot finished diameter dual tunnels carrying two lanes in each direction. Other alternatives were also analyzed based upon the results of the HNTB's preliminary geotechnical investigation, which included dual 48-foot diameter tunnels with three lanes in each direction, and a single 54-foot diameter bi-level tunnel with two lanes in each direction all about 150 in depth. In order to minimize impacts to the community an innovative approach to tunnel ventilation was developed which both minimized cost and surface impacts. This project is a part of GDOT Public Private Initiative (PPI). Costs were developed utilizing a bottoms up approach similar to that utilized by contractors for each of the tunnel alternatives analyzed. The project was estimated to cost $3.2 Billion.

California High Speed Rail Authority, California High Speed Rail Environmental Impact Statement and Preliminary Design for Segment between San Francisco and San Jose, CA

HNTB's lead tunneling engineer and project advisor for all aspects of tunnel design and analysis for this 47-mile-long corridor. Two tunnel configurations were considered, dual 33-foot-diameter tunnels carrying single track High Speed Rail, or dual 45-foot-diameter tunnel jointly carry both High Speed and Commuter Rail service. Right of Way was limited to an operational Commuter Rail corridor with numerous stations traversing areas of sensitive environment constraints and limitations. The project design addressed both the Life Safety and Ventilation requirements that had to limit the potential locations for such structures. Construction staging was prepared to allow for continuous Commuter Rail operations without the closing of any stations along the alignment.

City of Dallas, Major Flood Management and Storm Drainage Project, Dallas, TX

Tunnel engineer manager responsible for managing and a number of section designers in the development of the overall program and final tunnel alignment for a 5-mile-long, 31-foot diameter tunnel which will convey storm water from a number of drop shafts to a tributary to the Trinity River. In the process of developing the alignment HNTB also established tunnel design criteria and performed the program-wide geotechnical investigation program and prepared the program wide master technical specifications. HNTB also prepared a complex Risk Register outlining anticipated project risks and associated mitigation measures for each risk delineated.

Metropolitan Washington Airports Authority, Washington Dulles International Airport's Automated People Movers (APM) Tunnels, Dulles Airport, VA

Project advisor and member of Technical Advisory Group supporting the design of the $450 million APM Tunneling System. The project entails the design of over 10 miles of tunnels constructed utilizing NATM, Bored and Cut a Cover Tunneling techniques to accommodate new baggage handling system, underground tunnels, utility tunnel, pedestrian walkback tunnel and APMs. Various tunneling cross-sections were employed ranging 20 to 60 inches in diameter depending on the function purpose of the Tunnels. Tunnels traversed beneath active taxiways which required extensive analysis and precautions for potential settlement at these critical locations.

PIERRE DESAUTELS, PENG

Role:
World Trade Center Project Manager

Firm:
Halcrow

Education:
ME, 1980, Department of Civil Engineering and Applied Mechanics, McGill University

BE, 1977, Department of Civil Engineering and Applied Mechanics, McGill University

Registrations:
Professional Engineer: Ontario

Affiliations:
American Institute of Steel Construction, Member

American Society of Civil Engineers, Member

International Code Council (ICC), Member

Structural Engineers Associations of New York

American Institute of Steel Construction, Member

Prestressed Concrete Institute, Member

ACE Mentor Program, NY Chapter

Urban Land Institute

Ordre des Ingénieurs du Québec

Engineers without Borders

Years of Experience:
30

Pierre is a senior associate and project principal at Halcrow. He has overseen projects in a variety of building sectors including hospitality, commercial, institutional, health care, and parking garages. In this role, he oversees and maintains responsibility for the schematic design, the design development, and the production of contract documents. He remains actively involved in projects though the various construction stages. In recent years he has worked on projects in North America, China, Korea, the United Kingdom, Mexico, Morocco, Egypt, Kuwait, Dubai, and the West Indies.

Since 2004, Pierre has been the principal responsible for the Property Business Group at the New York City office. He has specific project experience in fast-track construction, award-winning international embassies, seismic design, and design-build projects. This unique experience has led to a high demand for his expertise in areas such as high loading requirements, security issues, complex negotiations, and international projects. His project experience includes:

DCM Erectors, WTC Transit Hub, New York, NY

Project director for technical assistance related to means and methods to DCM Erectors, who are the structural steel contractors who provided the fabrication and erection of the HUB steel at the new Fulton Street Transit Hub in lower Manhattan. Responsibilities included the evaluation on the HUB steel of the effects of the means and sequence of erections. The evaluation was carried out using a sequential model analysis reflecting the erection and concrete construction phases.

Fresh Kills Park, Field Operations, Staten Island, NY

Technical advisor for the Fresh Kills Park project for the transformation of the former Fresh Kills Landfill on the Arthur Kill waterfront of Staten Island into a new public park. The new 2,200-acre park is one of the most ambitious public works projects, combining state of the art ecological restoration techniques with extraordinary settings for recreation, public art, and facilities for many sports and programs that are unusual in the city. The structural aspect of the project included lookout towers, photovoltaic structures, observation decks, pedestrian bridges and walkways, and entrance gates.

Tishman Speyer Properties, 200 West Street, New York, NY

Project director for this headquarters office building which consists of a 45-story steel tower housing 2.1 million square-feet of mixed office, fitness facilities, atriums, and dining facilities. Responsibilities included coordinating, designing, and administration of contracts for structural and architectural elements during the construction phase of the building. Specific tasks included providing curtain wall connection details, ground floor and mezzanine structural modifications, foundation redesigns, structural modifications due to MEP design changes, and the design and modifications of non load-bearing masonry walls.

PIERRE DESAUTELS, PENG (CONTINUED)

Employment History:
1980 - Current
Halcrow

Modifications for Spiderman Production, Hilton Theater, New York, NY

Project advisor for this project which involved altering the existing 1,850-seat, 90,400-square-foot, theater on 42nd Street and Broadway in midtown Manhattan. The alteration included expanding the orchestra pit and modifying the stage apron to allow the stage designer to use extensive hydraulic lifts for a new theatre production.

New York Jets, Atlantic Health Jets' Training Center, Florham Park, NJ

Project director for the New York Jets training facility located in New Jersey, a 130,000-square-foot athletic, coaching, and management headquarter. The facility includes an outdoor field and an indoor field for security reasons. The center also includes fitness and therapy spaces for the players and is the head office for the team management and coaching staff. There is also a business center on-site that allows potential sponsors to meet the players and watch them train.

Tishman Construction Corporation of New York, Albert Einstein College of Medicine, Bronx, NY

Technical advisor for the design of remedial work, as part of means and methods, for the contractor to repair the results of a partial local collapse of a form for an architecturally exposed concrete column. The original requirement, recommended by a third party, of shoring five floors, was avoided using an innovative approach, saving time and money.

World Financial Center, Olympia & York, Battery Park, NY

Project engineer for this project in lower Manhattan. The World Financial Center was, at the time of construction, the largest commercial development undertaken in New York City since the Rockefeller Center was constructed in the 1930s. The complex consists of four high-rise towers ranging from 33 to 52 stories in height. Halcrow provided the overall concept for the project, as well as the detailed design for both the 52-story Tower Three (2,190,000 square-feet) and the 44-story Tower One (1,600,000 square-feet). The overall design of the complex created dramatic public spaces and access to the waterfront, which promotes spectacular views of the Hudson River and the harbor. Two identical towers form a gateway between the street and the waterfront via an enclosed glass vault known as the Winter Garden. The Winter Garden is part of a thriving street-level base that also contains the Liberty Street portal, retail arcades, restaurants, and a courtyard.

ANTHONY PIECHNIK, PE

Role:
Tunnels, Bridges and Terminals Project Manager

Firm:
HNTB

Education:
MS, 1995, Civil Engineering, University of Virginia

BS, 1990, Physics, Wake Forest University

Registrations:
Professional Engineer:
NY/2001, #[redacted]
ME/1996, #[redacted]
MA/1996, #[redacted]

Affiliations:
American Concrete Institute

Years of Experience:
18

Employment History:
2000 - Present
HNTB Corporation

1999 - 2000
Lockwood Consulting Engineers

1992 - 1999
TY LIN International

A.J. joined HNTB in 2000, and is a structural project engineer/squad leader in the New York office. He is involved with the analysis, design and construction of long-span and complex bridges. His project experience includes:

Port Authority of New York and New Jersey, Goethals Bridge over Arthur Kill Modernization Program, Staten Island, NY and Elizabeth, NJ
This $550 million project included the following:

Goethals Bridge Design Build Finance Procurement (DBFM), 2009-Present - Project manager for the development of the technical qualifications for the Goethals Bridge DBFM RFQ and the development of the DBFM RFP technical requirements. The scope of work includes the development of design and construction specifications as well as performance criteria. Site specific live load design criteria using WIM studies has been developed for the project. Additionally, maintenance and handback requirements have been developed with risk analysis.

Stage II Preliminary Design, 2004-2009 - Deputy project manager/lead engineer for the design of steel and segmental cable-stayed bridge alternatives with a 900-foot main span over the Arthur Kill waterway. Additionally, the design of segmental, composite steel girder and PPC composite girder alternatives are being completed for the over 5,200 feet of approach structure. Foundation and seismic studies have been completed to develop cost effective drilled shaft and concrete filled steel pipe foundation designs. Constructible details, durability and project specifications are under development to provide a 100-year service life.

Stage I Planning, 2002-2004 - Deputy project manager/lead engineer for the preliminary planning studies to replace the Goethals Bridge between Elizabeth, NJ and Staten Island, NY. The Goethals Bridge is a cantilever truss carrying I-278 (four lanes of traffic) over the Arthur Kill waterway and leading to the Staten Island Expressway. Total length, bridge and approaches, is approximately 7,100 feet. Type studies were completed for bridge types to show that a 900-foot main span cable-stayed bridge is the cost effective and constructible solution. The studies involved the development of alignments, preliminary steel and segmental cable stayed bridge designs, preliminary foundation studies, construction access studies, construction staging and tie-ins over the New Jersey Turnpike and construction schedules over the critical Arthur Kill waterway and its wetlands. Additionally, preliminary design criteria were developed with cost estimates.

Port Authority of New York and New Jersey, LaGuardia Airport FRP Deck Proposal, New York, NY
Senior bridge engineer responsible for the FRP composite design check, content and development of the proposal. In conjunction with a composite manufacturer, responsible for the development and design of a replacement FRP composite deck.

City of Milwaukee, Sixth Street Viaduct, Milwaukee, WI
Deputy project engineer and design/construction point of contact for contractor during the 24 month design-build of two 195-foot main span

ANTHONY PIECHNIK, PE (CONTINUED)

concrete cable-stayed, approach structures and two bascule bridges. The design of the viaduct was completed within a nine month period. The design included over 1,100 contract drawings. All critical path construction drawings were prepared in the order of construction and in self contained segments for easier understanding and portability. Reinforcement bar lists for all shop drawings were prepared and submitted directly to the rebar manufacturer and field via email. A three week time frame between completing the construction drawings to rebar delivery in the field was standard. Travel to Milwaukee and on-site time was as needed for the project team. The owner required inspection and approval of details prior to concrete placement, therefore traveling was at least once a month. Approvals of cable and post-tensioning stress was with in minutes via email with the resolution of field issues (i.e. damaged PT, piles, etc) typically accomplished by emailing of photos and sketches, with solutions within an hour or two. Early design recognition of improvements to the owners RFP concept, lead to simplifying a low level approach structure with an at-grade solution, resulting in time and cost savings.

Massachusetts Turnpike Authority, Leonard P. Zakim Bunker Hill Bridge over the Charles River, Boston, MA

Project manager/lead engineer for this $115 million project for a 10-lane landmark hybrid cable-stayed bridge with concrete back spans (250 feet) and a steel composite main span (745 feet). Opened in early 2003, the bridge has won numerous design awards including ACEC's 2003 Grand Award and the 2003 George S. Richardson Medal from the International Bridge Conference. A.J. was responsible for construction support services to the bridge contractor. Key responsibility included on/off-site coordination between rebar supplier, iron workers and contractor to produce full bar lists and constructible detailed integrated shop drawings. Integrated construction shop drawing production involved the advanced identification and resolution of constructability issues to reduce construction delays. Detailed shop drawings incorporated bridge geometry, reinforcement detailing, post-tensioning layout/details, stay anchorage layout/details and utilities to resolve conflicts and insure constructability. Reinforcement lists were sent directly to the bar fabricator for fabrication and delivery to the field. Additionally, the design of temporary support structures was completed.

City of Rome and Floyd County, Rome Pedestrian Bridge over the Oostanaula, Rome, GA

Design engineer participating in the final design of the 354-foot main span suspension pedestrian bridge over the Oostanaula River. This project will have a major impact on the skyline of this historic city. The concept is to install the cable and steel girder without temporary support and construct the deck with prefabricated panel. The main suspension cable will be anchored with grouted rock anchors in order to improve the aesthetics of the abutments. Inclined suspenders were utilized to ensure that the bridge performs adequately under pedestrian live loads. Anchorage design utilized a combination of H piles and rock anchors to minimize construction costs. The suspension bridge utilizes a steel composite deck, inclined suspenders and steel towers above the 100-year flood elevation.

SETH MEDWICK, PE

Role:
Tunnels, Bridges and Terminals Project Manager

Firm:
HNTB

Education:
MBA, 2004, New York University

BS, 1984, Civil Engineering, State University of New York at Buffalo

NHI Bridge Inspection Refresher Course, #130053, 4/2004

Registrations:
Professional Engineer: NY/1989, [redacted] NJ/2004, #[redacted]

PADI Divemaster/1998, [redacted]

Years of Experience:
29

Employment History:
2007 - Current
HNTB Corporation

2003 - 2007
Naik - Prasad, Inc.

1992 - 2003
HNTB Corporation

1990 - 1992
Vollmer Associates

1990 - 1990
Steinman Engineers

1984 - 1990
Vollmer Associates

Seth currently leads the Bridge Inspection group at HNTB New York, a role to which he brings 29 years of experience in the management and quality control of bridge design and inspection. He has also served as QA/QC engineer on a number of transportation related projects. Seth's project experience includes:

Port Authority of New York and New Jersey, George Washington Bridge Main Span Upper Level Structural Steel Rehabilitation, NJ/NY
Quality control engineer for the in-depth inspection of orthotropic deck, framing, suspender collars, finger joints, and drainage system. The project was completed in 2007.

Port Authority of New York and New Jersey, On-Call Structural Engineering Services, Various Locations, NY/NJ
Structural task order project manager overseeing inspection tasks for a variety of on-call structural assignments. Facilities include the George Washington, Bayonne, Goethal's Bridges and the Outerbridge Crossing, as well as the Holland and Lincoln Tunnels.

Port Authority of New York and New Jersey, Contract PMD-07-007, Performance of Expert Professional Engineering Services for the George Washington Bridge, Main Span Upper Level Structural Steel Rehabilitation, New York, NY
Quality control engineer for the in-depth inspection of the GWB upper level framing and installation of WIM sensors.

New York State Department of Transportation, 2008 Biennial Inspection, Brooklyn, NY
QC on the inspection of this historic East River Crossing. This suspension/cable-stayed bridge has a main span of approximately 1,600 feet and side spans of 933 feet each. The inspection includes the entire structure from the Manhattan approach to Brooklyn approach with a total length of over one mile. The bridge has six lanes of vehicular traffic and a pedestrian promenade.

Triborough Bridge and Tunnel Authority, 2003 Biennial Inspection of Bronx-Whitestone Bridge, Bronx/Queens County, NY
Project manager for inspection which included the two-girder, non-redundant approach spans, suspension spans, towers and cables. Inspection included the use of rope climbing access and in-depth inspection of cables. He also prepared NYSDOT report and all required TBTA reports, and updated BIN maps, database, inventory and load ratings. He coordinated inspection with the TBTA, NYCDOT and USCG.

Triborough Bridge and Tunnel Authority, Inspection On-Call, 2001-2003, PSC-00-2599, New York, NY
Project engineer/quality control engineer for this second consecutive contract award. Project tasks included: in-depth inspection of lighting standards on the Throgs Neck Bridge; in-depth inspection of the VN

SETH MEDWICK, PE (CONTINUED)

Bridge lower tower struts; inspection of light poles at HH bridge, lighting study at the QMT; design of repairs at the VN towers lower strut; inspection of abutment and wingwalls at the TN; and replacement of toll plaza pavement at the QMT. Wrote scope of services to be provided and prepared inspection criteria. Reviewed all inspection reports and flag reports. Coordinated all activities with the facility involved and NYCDOT as required.

Triborough Bridge and Tunnel Authority, 2001 Biennial Inspection of Marine Parkway and Cross Bay Blvd. Bridges, PSC-00-2593, Queens County, NY

Quality control engineer for inspection which included the MP Lift Bridge, CBB prestressed concrete girder viaduct and Riis Park Pedestrian Bridge. Performed diving inspection and fathometric survey, elevator inspection at MP, and mechanical/ electrical inspection at MP lift span. Prepared NYSDOT for each BIN and all required TBTA reports. Updated BIN maps, databases, inventory and load ratings. Coordinated inspection with the TBTA, NYCDOT and USCG.

Triborough Bridge and Tunnel Authority, Inspection On-Call, 1999-2001, PSC-98-2517, New York, NY

Project engineer/quality control engineer for this project, which included the following tasks: Task 1-Battery Garage façade inspection; Task 2-Performed Battery Tunnel (BBT) fresh air duct inspection; Task 3/3A-QMT drainage design & survey; and Task 4 -Throgs Neck Bridge light pole inspection. Wrote scope of services to be provided and prepared inspection criteria. Reviewed all inspection reports and flag reports. Coordinated all activities with the facility involved and NYCDOT as required.

New York State Department of Transportation, 2001-2002 Biennial Inspection of Arterial and Local Bridges, Region 10, Nassau & Suffolk Counties, NY

Quality control engineer for the inspection of 260 bridges and the preparation of BIPPI inspection reports. Reviewed AASHTO VIRTIS load ratings and ensured inventory was updated. Prepared weekly, monthly and yearly inspection schedules. Coordinated inspections with LIRR and USCG. Coordinated all access equipment needed for inspection.

New York State Department of Transportation, 2000 Biennial Inspection of Williamsburg Bridge, Region 11, NY and Kings County, NY

Quality control engineer in charge of inspecting the suspension bridge and preparing inspection reports. Inspection involved coordination with NYCT, NYCDOT, Yonkers Construction, USCG, and NYC Police Department. Prepared weekly inspection schedules and reviewed and submitted all flag reports on a daily basis. Also reviews flagging criteria, implemented the QA Plan and Safety Plan, and conducted tailgate safety meetings.

STEVEN RICHARDS, PE

Role:
Tunnels, Bridges and Terminals Project Manager

Firm:
HNTB

Education:
BS, 1997, Civil Engineering, Rutgers University

AAS, 1993, Engineering Technology, Raritan Valley College

Registrations:
Professional Engineer:
NY/2005, #[redacted]
NJ/2007,
WV/2002, #
FL/2007,

Affiliations:
American Society of Civil Engineers

American Institute of Steel Construction

Years of Experience:
13

Employment History:
1998 - Current
HNTB Corporation

Steve is a senior bridge engineer in the New York City office with more than 13 years of experience in bridge design, inspection and rehabilitation. He has played a key role on complex bridge projects throughout the Northeast. For the last seven years, Steve has supervised structural engineering and inspection for the Delaware River and Bay Authority General Engineering Consulting Services contract. His project experience includes:

New York State Department of Transportation, Lake Champlain Bridge Replacement, Crown Point, NY

Structural task leader for the design of the reinforced concrete piers and miscellaneous structural details for this signature long span bridge over Lake Champlain. The project design employed open delta type pier geometry, which required complex rebar detailing, as well as careful analysis of load paths through the pier elements. Structural design was completed in record time due to the emergency nature of this project. Currently involved in construction phase services for this project.

MTA-Bridges and Tunnels (TBTA), Miscellaneous Design Services On Call Weigh-in-Motion Truck study at RFK Bridge and Bronx-Whitestone Bridge, NYC

Structural task leader for the design and implementation of a WIM truck study at these major NY suspension bridges. The objective of the study is to gather and analyze vehicular traffic data at each bridge using portable, temporary Weigh-in-Motion (WIM) systems. The analysis would uncover any high frequency usage of the structure by overloaded trucks. Site-specific load models representative of the actual trucks that routinely cross these bridges was developed from the WIM data. An additional objective of this study is to evaluate the carrying capacity of the ten lowest rated structural members of these bridges for common overload configurations revealed in the WIM analysis using the AASHTO LRFR procedure.

Delaware River and Bay Authority, Freeman Highway & Bridge Rehabilitation, Lewes, DE

Project manager for the rehabilitation design of the Freeman Highway Bridge; a four-span continuous, steel multi-girder bridge carrying the Freeman Highway over the Lewes & Rehoboth Canal. The design services included overlay replacement, expansion joint replacement, drainage improvements, substructure testing and repairs, bearing replacement, miscellaneous steelwork repairs and recoating. The bridge was also analyzed for load ratings and performance of fatigue sensitive details.

Delaware River and Bay Authority, Elevator Systems Replacement, Miscellaneous Steelwork, Security Enhancements, Delaware Memorial Bridge, New Castle, DE

Project manager and structural task leader for the design of new exterior mounted, rack and pinion tower elevators on the Delaware Memorial Bridge, as well as security enhancements and miscellaneous steel repairs throughout both structures. The design work included elevator support tower connections to the existing structure, new elevator platforms at four levels, tower saddle hood modifications, changes to tower

STEVEN RICHARDS, PE (CONTINUED)

access points, addition of security doors to all bridge access points, miscellaneous steelwork repairs, and interior tower painting. Project required extensive coordination with mechanical and electrical systems.

Florida Department of Transportation, N.W. 12th Avenue Replacement Bridge No. 871005 over Miami River, Miami, FL

Structural task leader providing construction support services for this twin-leaf bascule bridge. The scope of work involved shop drawing review, RFI responses, plan revisions and general structural engineering duties for two complex, reinforced concrete, three-level bascule piers that were constructed in two stages.

Delaware River and Bay Authority, Rehabilitation of Expansion Joints, Delaware Memorial Bridge, New Castle, DE

Structural task leader responsible for contract plans, specifications and construction cost estimate for the retrofit of open deck joints throughout the Delaware Memorial Bridge. The Delaware Memorial consists of twin suspension bridges with over three miles of approach structure. The rehabilitation included the large expansion dams at the steel towers of the suspended spans. The expansion dams were modified to add redundant hold-down mechanisms in the event of bolt failure. Additionally, the stringer bearings at the tower were replaced to provide proper vertical alignment of the end dams and proper seating of the tooth joint sections at the towers. The contract also included suspended span stringer bearing replacements, wind seat repairs, tower pin & link inspections, and miscellaneous steelwork repairs.

Delaware River and Bay Authority, 2003-2010 General Engineering Consultant Services for Delaware Memorial Bridge and Appurtenances, New Castle, DE

Structural project manager providing general engineering services on a task order basis. Scope of services includes preparation of design studies, alternatives and concepts, providing technical advice and consulting expertise, providing detailed design services for construction projects, performing annual inspections of all DRBA owned facilities, attending meetings with and for the DRBA, and review of plans prepared by other consultants for any possible improvements.

Delaware River and Bay Authority, 2003-2010 General Engineering Consultant Services for Cape May and Lewes Ferry and Terminal and Three Forts Crossing Facilities, NJ & DE

Structural project manager providing general engineering services on a task order basis for all land based structures at the Cape May-Lewes Ferry terminals. The land-based structures include the terminal buildings, transfer bridges, sign structures, toll canopies, roadways and one highway overpass structure. Scope of services includes preparation of design studies, alternatives and concepts, providing technical advice and consulting expertise, providing detailed design services for construction projects, performing annual inspections of all DRBA owned land-based facilities, attending meetings with and for the DRBA, and review of plans prepared by other consultants for any possible improvements.

KEVIN WILLIAMS, AICP

Role:
Public Outreach & Cooridnation

Firm:
HNTB

Education:
JD, May 2008, Rutgers University Law School

Masters (MURP), 2000, Urban and Regional Planning, Florida Atlantic University

Architectural Studies, Florida Atlantic University/PBCC, 1997-2000

BA, 1996, History, University of Florida

BS, 1996, Psychology - Neuroscience, University of Florida

Registrations:
American Institue of Certified Planners (#[redacted], National Accreditation

Affiliations:
American Institute of Certified Planners (AICP)

American Planning Association (APA)

American Planning Association - NY

American Planning Association - NJ

Urban Land Institute

Years of Experience:
13

Kevin, an associate vice president with HNTB, directs the preliminary-design and planning practice for the New York Region. He leads teams of engineers, site designers, and planners in the development of sustainable transportation projects, regions, communities and places. Kevin's multi-disciplinary background blends skills in site design and master planning with market based analysis, policy and economic decision-making. His work is grounded in consensus building between public and agency stakeholders to create functional, technical and realistic plans. Kevin has led challenging interdisciplinary projects, including regional land use and transportation plans, including forecasting, demand modeling and market for multi-modal and transit design projects, major transportation feasibility and infrastructure studies, environmental assessments, and master plans for large-scale redevelopment projects, transit-oriented development, waterfront revitalization, as well as corridor, downtown and site plans. His project experience includes:

Port Authority of New York and New Jersey, 2009-2012 Transportation Planning and Policy Analysis, Specialized Transportation Planning Services, Intermodal Freight Planning, Project Appraisal and Economic Analysis, and Strategic Research and Planning On-call Contract
Program manager for these five on-call planning contracts for the Port Authority leading a large, nationally renowned team of sub consultants assisting the Authority in specialized transportation feasibility projects and long range system-wide planning.

New York State Department of Transportation, NYS High Speed Rail, Empire Corridor Tier I - Environmental Impact Statement, NY
Task leader for ridership demand forecasting, requiring the development of a 25 year time horizon market analysis and ridership forecast for the analysis of high speed rail service alternatives for the Empire Corridor from New York City to Niagara Falls. Using the results of this competitive mode market assessment he works with members of the team to development and adjust various service alternatives to optimize fare return and ridership. He is responsible for developing a financial feasibility model that considers fare to cost considerations to develop a cost benefit analysis picture for all feasible alternatives.

Delaware Department of Transportation, DART - Delaware Transit Corporation - Six-Year Business Plan, DE
Lead technical planner role for the development of a six-year Business Plan for DTC. This statewide organization provides bus, rail and para-transit services Statewide. The plan will seek to address both organizational and service hurdles to more fully tie long range planning goals to near term strategies and annual budgets while at the same time defining roles and responsibilities as well as projects to assist in making the plan part of the daily organizational practice.

KEVIN WILLIAMS, AICP (CONTINUED)

Employment History:
2009 - Current
HNTB Corporation

2002 - 2008
Urbitran/AECOM

2000 - 2002
Moreland-Autobelli

1999 - 2000
City of Fort Lauderdale

1998 - 1999
Diginet

1997 - 1998
Smith Architectural Group

Southeastern Pennsylvania Transportation Authority, Jenkintown-Wyncote Station Region Long-Range Parking and Ridership Demand Analysis, PA

Project manager and technical planning expert for the preparation of a demand model for Jenkintown-Wyncote Station and seven other area stations including Noble, Glenside, and others. He developed a 25 year demand model for ridership and station are parking as well as a commuter preference survey for this region to determine the needed capital improvement to meet demand and preference needs. The complex model utilized census based projections, and a specialized demand analysis method combined with consideration of the affect of fluctuating and increasing fuel prices on conversion of passenger vehicle riders to transit utilization.

MTA - Long Island Railroad, Design Improvements at Great Neck Station, Design Report- Environmental Assessment DR/EA and Public Outreach, NY

Task leader for environmental planning and public outreach. The project which involves the planning and design of a new bridge over the Port Washington Branch line, the design of a new comprehensive stormwater drainage system at the track level, as well as the installation of a new 1,600-foot pocket track. Kevin is also overseeing the development of a NYS Design Report.

New Jersey Transit, 2009-2012 Stations, Access and Parking Planning Program Manager & On-call Services Contract, NY/NJ

Project manager in charge of this comprehensive systemwide station and station area planning and preliminary design contract. Kevin and his team of consultants assist the NJT Corporation in the strategic planning of its assets and the development of scopes, budgets, concepts and preliminary engineering of its station sites and access areas.

MTA Metro-North Railroad, On-Call Metro-North Station & Parking Planning, Design, Marketing, and Transit Oriented Development, NY

Program manager for sole source on-call for Metro-North Railroad. For over six years, Kevin directed a large and diverse consultant team working intimately with MNR staff to define both near-term projects and their long range capital plan. With more than 30 task assignments on average per contract year, a broad variety of work was managed by Kevin for MNR.

TONY LAGALA, PE

Role:
Constructibility

Firm:
HNTB

Education:
BS, 1977, Civil Engineering, New Jersey Institute of Technology

Registrations:
Professional Engineer:
NJ/1998, #
NV/1996, #
DE/1993, #

Certifications:
ASCE VII

ACI, SAT, ATSSA Certifications

ATSSA Worksite Safety Supervisor

NJ Society of Asphalt Technicians Certification

48-Hour HazMat Supervisor Course

Troxler Nuclear Density Gauge Certification

Years of Experience:
33

Employment History:
1984 - Current
HNTB Corporation

1977 - 1984
Catania Construction Company, Inc

Tony has more than 35 years of experience in construction inspection, bridge inspection, surveying, and building construction. He has served as project manager on many construction projects for repairs and improvements to NJ Turnpike facilities. Previous experience includes building construction and inspection, as well as installation of electronic toll collection facilities. Currently he is serving on the NJTA Interchange 6 to 9 widening program as the field project manager for Section 6.

For the last seven years, He has been the manager of construction services for the HNTB NJ Construction group, serving as the project manager for all construction service contracts, and providing guidance to a staff of 50 technicians and engineers. In this role, he has active involvement in the various NJTA general consultant contracts. Duties under these contracts include constructability, specification, feasibility, MPT, and scheduling reviews, bid evaluation, claims analysis, submittal of annual reports, final inspection attendance and any other support services requested by the Authority concerning construction issues. His project experience includes:

New Jersey Turnpike Authority, Interchange 8, Section 6 of the NJTA 6-9 Widening Program, NJ

Field project manager on this $300 million interchange improvement project. This project includes the dualization of the Turnpike Mainline for 2 miles in the vicinity of Interchange 8, as well as multiple new ramps and bridge structures encapsulated in Section 6 of the NJTA Interchange 6-9 Widening Program. The project is comprised of five individual contracts, including the creation of a new toll plaza and utility building and the first SPUI interchange in New Jersey. Work includes 15 new bridges and associated ramps, H-piles, drilled shafts, structural steel, HPC bridge deck, two stage and single stage MSE walls, conventional retaining walls, surcharge and settlement monitoring, utility relocations and installations, demolition of buildings and existing structures, sign structures, highway lighting, roadway box construction, milling, drainage, HMA, night work, sheeting, concrete approach pavement, electrical/ITS work, signalized intersections at Route 33, roadway excavation and embankment, contaminated soil, APS (acid producing soils), storm water management basins, extensive traffic shifts, detours and associated maintenance and protection of traffic (MPT), new toll plaza, booths, canopy and utility building, and other incidental work. Tony's duties include being the consultant's direct representative to the owner, responsible for coordination between the seven other sections involved in the overall widening program, responsible for coordination with all of the local affiliations, DCA, SCD and other jurisdictional authorities. He was also responsible for providing appropriate construction inspection/engineering personnel, overseeing the quality of work provided by the firm's construction inspection/engineering staff and directly supervising this project's five resident engineers and their support staff.

TONY LAGALA, PE (CONTINUED)

New Jersey Department of Transportation, Routes 1 & 9 (25) Saint Paul's Avenue Viaduct and Catenary Construction Inspection, Jersey City, NJ

Project manager responsible for construction inspection and scheduling review services for the replacement of Routes 1&9(25) St. Paul's Avenue Viaduct and Routes 1&9(25) Catenary Tower Construction. Routes 1&9 carries traffic from the Holland Tunnel to Pulaski Skyway. Major aspects of this project include construction of 11 bridges, 45 retaining walls, surcharge, 20 sign structures, significant utility relocation, new ITS facilities tied into the NJTA Traffic Management Center, and a highly coordinated MPT effort. Also included is a community outreach program due to the project's close proximity of existing residential properties to the project site. This $200 million project is the largest NJDOT construction contract released to date.

New Jersey Turnpike Authority, Interchange 16W Ramp Improvements, East Rutherford, NJ

Project manager responsible for this multi-contract, $70 million interchange improvement project which includes four new ramps and four bridge structures, as well as flyovers with curved girders, MSE and conventional retaining walls, surcharge and settlement monitoring, reconstruction of seven existing ramps and two bridge structures, utility relocations and installations, and a wetlands mitigation site. The project also includes sign structures, highway lighting, milling, HMA, drainage, H-piles, drilled shafts, structural steel, HPC bridge deck, sheeting, concrete approach pavement, electrical/ITS work, roadway excavation, contaminated soil, stormwater management basins and extensive MPT. He serves as the consultant's direct representative to the owner, providing appropriate construction inspection/ engineering personnel, overseeing the quality of work provided by the construction inspection/engineering staff, and directly supervising the resident engineers. This project required the use of both NJTA and NJDOT specifications and standards.

County of Ocean, Mantoloking Bridge Replacement, NJ

Project manager for this $22 million federally funded project which entailed the replacement of this historic circa 1938 single-leaf bascule lift span with a new hydraulic-lift double-leaf bascule bridge. Project includes H-beam and concrete filled pipe piles, realignment of approach roadways, drainage, embankment, HPC bridge deck construction, structural steel and precast concrete girders, multiple sequenced construction to allow for unobstructed traffic on the existing structure.

JOHN BRIZZELL, PE

Role:
Construction

Firm:
HNTB

Education:
BS, Civil Engineering, Rensselaer Polytechnic Institute,

AAS, Engineering Science, 1971, Hudson Valley Community College

Indiana University, National Highway and Transportation Management Institute (AASHTO Sponsored), 1997

Cornell University, Materials Engineering RPI, Troy, NY;

Engineering Management, Rockefeller Institute, State University of New York at Albany; Programs in Public Administration

Registrations:
Professional Engineer: NY/1978, [redacted]

Affiliations:
Eastern New York Chapter, Association of Bridge Construction and Design

Hudson Mohawk Chapter of ASCE

Civil Engineering Foundation for Innovation (CEFI)

NYS Associated General Contractors

Years of Experience:
37

John recently joined HNTB and brings 37 years of experience in a wide range of transportation engineering and management activities. These include agency management; program management; asset management; strategic planning; program and project planning, design and construction. John has served in engineering management and executive level positions in both the New York State Department of Transportation (NYSDOT) and the New York State Thruway Authority (NYSTA).

Throughout his career, John has earned recognition as a leader and innovator, with expertise in many aspects of Transportation Engineering. His project experience includes:

Bergmann Associates, Albany, NY

Construction manager responsible for the Transportation Construction Program in Bergmann's Albany office. Tasks included development and oversight of Contractor Procurement Processes; development of proposals for Construction Inspection and Management Services; Quality Assurance oversight of Construction Services and direct supervision of construction field staff. John often served as the communication and issue resolution link between Owners, Contractors, Designers, Field Staff and other project parties (Agencies, Utilities, etc.). The most significant project completed during this period was "Walkway Over the Hudson," the transformation of the abandoned Poughkeepsie Highland Railroad Bridge into the world's longest pedestrian bridge and New York State's newest park.

New York State Thruway Authority and Canal Corporation, Albany, NY

Chief engineer who provided management oversight and coordination of all engineering, maintenance and operational activities of the Authority. John was responsible for the coordination, development and delivery of in-house and contracted activities; including the Authority Capital Program. He lead a comprehensive effort to develop a strategic long range plan for improving Authority assets, with an objective of improved customer service and value to the State of New York. John also coordinated activities with other NYS Transportation agencies with the objective of improving operational activities and services. (2000 through 2007, six years with added responsibility of deputy executive director)

Southern Tier (Region 9) New York State Department of Transportation.

Regional director of transportation who was responsible for the planning, development and implementation of all NYSDOT programs and operations within a six county area of central southern New York State. This included integration of asset maintenance and operations with a multi-year capital program involving both state and locally owned transportation facilities. John was responsible for managing and directing all Regional program areas to achieve DOT goals and objectives within bud-

JOHN BRIZZELL, PE (CONTINUED)

Employment History:
2010 - Present
HNTB Corporation

2007 - 2010
Bergmann Associates

2000 - 2007
New York State Thruway Authority

1973 - 2000
New York State Department of Transportation

geted resources and consistent with Department policies. While in this assignment, he chaired statewide strategic efforts involving pavement management and economic development.

New York State Department of Transportation, Construction Contract Management and Administration, Albany, NY

Responsible for construction supervision in NYSDOT's Capital District Region and as the supervisor of the Departments Construction Contract Administration Unit in the central office. During these assignments, he was an integral part in the development and implementation emergency response contract procedures which were ultimately adopted on a statewide basis. (1990 through 1996)

New York State Department of Transportation, Contract Administration, Albany, NY

Responsible for direction and oversight of multiple contract issues including: Review of Bids and Recommendations for Award; Payments to Contractors; Change Orders; Dispute Resolution; and Contract Acceptance and Close-out processes. During this time, John oversaw the updating of the NYSDOT Manual for Uniform Record Keeping (MURK) and the combining of MURK with an expanded Construction Supervision Manual to create the NYSDOT Contract Administration Manual (CAM). Training classes and seminars on various aspects of Contract Administration and Dispute Resolution were developed and presented statewide at DOT training and seminars.

New York State Department of Transportation, Partnering, Albany, NY

Worked with the design and construction industry to achieve mutually beneficial results. As a field engineer he practiced the Partnering principals of cooperation, open communication, trust and respect; within the limitations of the contract agreement. The creation of "Interim Payment" was a product of his participation in Executive Partnering efforts between NYSDOT and AGC. John also chaired the NYS "Asphalt Paving Task Force," a cooperative effort aimed at improving the performance and cost effectiveness of asphalt pavements. When he became the chief engineer at the NYS Thruway, John cleared lines of communications with the private sector, creating an Executive Level Partnering effort that grew to include the NYS Consulting Engineers. An outgrowth of this Executive Level partnering was the realignment of duties and authority among NYSTA Construction field personnel such that decisions are made and actions taken to address unforeseen circumstances in a timely manner.

SHEREAF YOUSSEF

Role:
Cost Control/Earned Value Management

Firm:
HNTB

Education:
BS, 1991, Structural Engineering, Alexandria University, Egypt

Years of Experience:
19

Employment history:
2009 - Current
HNTB Corporation

2004 - 2009
URS Corporation

2001 - 2004
AECOM Technology Inc.

2000 - 2001
B & H Engineering, P.C.

1998 - 2000
TRC Environmental - A & H Engineers, P.C.

1997 - 1998
THE RBA GROUP

1994 - 1997
URS Griener Woodward-CLYDE Inc.

1993 - 1994
Macia Consulting Enterprises

1992 - 1993
Fellow Craft, Inc.

1991 - 1992
The Land, Inc., Alexandria, Egypt

Shereaf has more than 19 years of scheduling and cost experience for various public and private clients. His duties have included monitoring the performance of subconsultants; cost control; scheduling and schedule control tasks for compliance with contract requirements; project procedures; and work instructions. The major software he uses includes Oracle's Primavera Risk Analysis, Oracle's Primavera P6 Professional Project Management, Oracle's Primavera Contract Management, Oracle's Primavera Earned Value Management, Primavera Contractor, Sure Track Project Manager, Primavera Project Planner P3, Primavera Charts, PRISM Project Manager, Prolog Manager, Crystal Reports XI, Info Maker 13.0-Sybase Application, Causeway Collaboration, Citadon Project Net, People Soft, JD Edwards and MS Project 2007. His project experience includes:

New Jersey Turnpike Authority, Program Management for NJTA Capital Program, Various Locations, NJ

Director of scheduling and claims responsible for monitoring 2009 bond series performance, including fund 300 and 310; establish an earn value system for various bond series by utilizing Oracle's Primavera P6 Professional Project Management; the development and tracking of budgets and budget revisions for all program components; management of contingencies and allowances; tracking of all funding authorizations; projections of cash flow; regular estimates and forecasts at completion; variance and exception reporting; project accounting, including tracking of all invoices, commitments and payments; and prepare and recommend a comprehensive project budget, including all phases of the planning, design and construction consistent with the program budget and funding authorizations. The project budgets are developed in accordance with the budgeting guidelines issued by the Turnpike Authority to provide consistency and reliability across all projects. The cost management system is linked to website collaboration "DashPort" and constitutes a unified database with information flowing from consultants and contractors. The system provided all varieties of standard and customized on-line and printed management reports to allow the Turnpike Authority project managers to manage and control costs at completion. The NJTA maintains and operates the 148-mile New Jersey Turnpike and the 173-mile Garden State Parkway. The NJTA contracted HNTB to monitor the $7 billion capital program.

New Jersey Department of Transportation, Claims Management for Route 46 Section 7L & 8K from the Vicinity of Princeton Avenue to the Vicinity of North Sussex Street & Route 15 from the Vicinity of Pequannock Street to the Vicinity of Fairview Avenue (Contract No. 038960701), Various Locations, NJ

Director of scheduling and claims responsible for claims analysis for the entire construction project, analyzing all delay codes (compensable, excusable, non-compensable, non-excusable), analyzing all claim codes (engineering error, NJDOT design revision, engineering omission, NJDOT support delay, field condition, contractor error/omission, inci-

SHEREAF YOUSSEF (CONTINUED)

dental (unrelated to original scope), contractor lost productivity, project scope addition, contractor under-estimated effort utility delay, contractor coordination of work and contractor inappropriate schedule logic)

South Jersey Transportation Authority, Construction Management and Inspection Services for the Third Lane Widening of the Westbound Atlantic City Expressway, Milepost 7.8 to 17.4 (9.6 Miles), located at Hamilton Township and Egg Harbor Township, Atlantic County, NJ

Director of scheduling and claims responsible for the management of all activities related to management and coordination of the construction schedule and cost control interface. The work within this contract includes lane construction, bridge widening, box culvert extensions, installation of overhead sign structures and installation of highway lighting at the interchanges. Provisions for various ITS components were incorporated into the project, including CCTV cameras, EZ-Pass Tag readers and overhead variable message signs to improve communications, safety and mobility along the expressway. The widening project will increase the capacity of the roadway, decrease congestions and increase safety by providing auxiliary lanes of adequate length for merging vehicles onto the mainline.

New York City Economic Development Corporation, Construction Management Services for Randall's Island Sports Field Development Project at Randall's & Wards Island Park, Randall's Island, New York City, NY

Senior national principal project controls manager responsible for developing the electronic document management system (EDMS) utilizing Prolog Manager 7.5 with the interface with Primavera Products. Shereaf also developed a website that linked to Meridian System to track down thousands of documents, schedule activities and budgets across various stages of the project. The New York City Department of Parks & Recreation (NYCDPR) in conjunction with the New York City Economic Development Corporation (NYCEDC) and the Randall's Island Sports Foundation, Inc. (RISF) is implementing the Randall's Island Improvements project in effort to improve the functionality and quality of the land owned by NYCDPR. The overall project will include 64 new integrated and overlapping artificial and natural turf fields, upgrades and addition to utility infrastructure and the resurfacing of existing roadway and bike trail. The proposed work at the East River Field and the Sunken Garden will include the removal of roadway, asphalt pedestrian trail and selected trees. The new water service is installed to provide field irrigation and new storm-water outfall to the Harlem River to meet the drainage requirements. This project was valued at $110 million.

SAMUEL ILECHUKU

Role:
Scheduling

Firm:
HNTB

Education:
MS, 1986, Mechanical Engineering and MBA, Management, Widener University

BS, 1980, Industrial Engineering, Arizona State University

Years of Experience:
30

Employment History:
2009 - Current
HNTB Corporation

2007 - 2009
Shaw Power Group

Iraq Reconstruction Program

2001 - 2003
Hunt Construction Group

2000 - 2000
Intel Corporation

1997 - 2000
Motorola, Inc

1996 - 1997
NYNEX Corporation (Verizon)

1993 - 1996
PANYNJ

1987 - 1993
Health and Hospitals Corporation

Sam has experience working as a senior project controls manager/ scheduling consultant on large programs and projects using his expertise in Primavera P5 or P3, MS Project, Visio, MS Access, PowerPoint and a host of other project management tools. He has experience providing hands-on support in the development of Levels I through IV Critical Path Method project schedules and report, contributing in EV analysis, project risks analysis and mitigation planning, maintenance of inter-dependency matrix, document control and project communication. His project experience includes:

Port Authority of New York and New Jersey, World Trade Center Transportation Hub Project, New York, NY

Program scheduler on this $2.8 billion architecturally iconic transit center, performing master program scheduling, schedule and cost risk analysis via Monte Carlo simulations, and constructability review tasks.

Khor Al Zubair Power Plant, Iraq

Lead planner who developed scope of work (SOW), work breakdown structure (WBS) and the organization breakdown structure (OBS). Responsibilities included developing project schedules and establishing a baseline for controlling the project. Sam analyzed performances against the plans, performed Risk Analysis (Monte Carlo), forecasted schedule impacts on the plan, and reported status to project team members and client.

US Department of Defense, Iraq

Program planning and scheduling consultant who developed enterprise project structure and program schedules for the program which included all the Iraqi Oil Production and Construction Projects. Sam communicated plan to various tiers of the coalition task force, monitored execution versus the plan, and analyzed performance against the plan, forecast program schedule impacts on the plan, and provided part of the Sec Army reports that cover % work in progress (WIP) from the sectors of the program. He developed the enterprise structure and organization breakdown structure (OBS) and trained staff on P3e/c software used for scheduling and reporting, and provided some of the reports requested by various sectors of the program and the military.

New York Power Authority, 500 MW Combined Cycle Power Plant, Astoria, NY

Developed and managed the project integrated schedule, and earned value reporting and performance analysis for multiple-prime construction. Responsible for field validation of schedule updates, forecasts, and productivity analysis. The project is valued at $750 million.

SAMUEL ILECHUKU (CONTINUED)

SCI Engineers & Associates
Principal program/project scheduling and planning consultant who provided services to clients in their respective programs and projects.

Turning Stone Casino Resort, Hotel Construction, Event Center, and Winter Garden Project, Oneida, NY

Project management consultant who maintained heavy construction equipment logistics schedule and issues databases used for all civil and structural phases of the program. They included Rough Terrain Cranes, Hydraulic Lifting Cranes, Truck Terrain Cranes, and Tower Cranes used for flying the forms during 20-story tower hotel construction. He used P3e/c for comprehensive reporting, structured projects by developing enterprise project structure (EPS); work breakdown structures (WBS); and organization breakdown structure (OBS) needed for reporting. He developed activity logic/inter project dependencies and project phases.

Marriott, Desert Ridge Resort, Phoenix, AZ
Project scheduling consultant for this one million square-foot, 950-room hotel on 6 floors featuring an 18-hole golf course, health Spa, convention facilities, and extensive landscaping. Sam developed and maintained heavy construction equipment logistics schedule and issues databases used for all civil and structural phases of the project.

TRUMP, Starlight 29 Casino Expansion Project, Palm Springs, CA
Project scheduling consultant who developed and maintained heavy construction equipment logistics schedule and issues databases used for all civil and structural phases of the project.

Port Authority of New York and New Jersey, 1993 - 1996 World Trade Center Recovery Project, New York, NY
Senior construction scheduling consultant who developed project plans, work breakdown structures, and maintained updated detail cost and resource loaded CPM Schedules using Primavera for windows and PMBOK methodology. Sam prepared monthly status reports for project managers and executive management describing program status, including cost and schedule performance, flagging key issues requiring senior management attention. He also developed As- built construction schedules of the recovery used by Coopers and Lybrant for insurance claims.

ANGRI SRINIVAS, PMP

Role:
Estimating

Firm:
HNTB

Education:
BS, 1987, Mechanical Engineering, STJ Inst of Technology

Registrations:
Certified PMP, #[redacted] 2008

Years of Experience:
15

Employment History:
2009 - Current
HNTB Corporation

2001 - 2009
JCMS, Inc.

1998 - 2001
Toyo Engineering Corporation

1995 - 1998
Essar Limited

Angri has more than 15 years engineering and construction project controls experience in mass transit infrastructure projects, managing project controls for large transit projects, EPC power plant and heavy industry construction projects. His project experience includes:

MTA Capital Construction, East Side Access Project, New York, NY

Senior cost/scheduler engineer on the East Side Access Project, specifically for the Manhattan contracts. Work involves reviewing contractor schedule, monthly payments, look ahead schedules, change orders and time extensions. He is heavily involved in resolving claims ascertaining equitable adjustments between the parties concerned. Other responsibilities include managing daily, weekly and monthly reports, calculating contractor production levels to be utilized in comparison with contractor plans, weekly and monthly cost curves. Forecast of future work in terms of cost and schedule is another area in which he has active participation.

Southeastern Pennsylvania Transportation Authority, MSEPM Project, Philadelphia, PA

Lead project controls analyst on the $740 million reconstruction of the Market Street El program which included replacing 11,000 feet of the current structure with new single-beam supports, replacing six existing stations, constructing two new Automatic Train Control buildings and other related improvements. The program consisted of six packages for phased reconstruction. Responsibilities included works such as reviewing contractor schedules, resources, invoices, and maintaining overall integrated program schedule and budget for all packages with three independent contracts per package. As part of Program management team Angri conducted risk analysis by creating risk management plan, risk identification, Qualitative and Quantitative risk analysis, response planning, controlling and mitigation. Work involved assessment of key project elements for cost and schedule with three point estimates, generating probabilistic curves based on assessments, maintaining a risk register identifying key constraints and contributors to project risk, assessing their criticality, setting method of mitigation, and assigning responsibility. He also maintained risk impacted project schedule and updated program budget with periodical forecasts for FTA and upper management. As well as performed in depth schedule review and conducted summary review of contractor claims for entitlement.

Balfour Beatty Rail, Inc, Philadelphia, PA

Lead project control engineer for the Broad Street Subway Signal System Upgrade Project for SEPTA in Philadelphia, PA. Angri's responsibilities involved relating to project elements of upgrading the existing signal system and communication facilities on Broad Street Subway between Pattison Avenue and Fern Rock Yard. He was responsible for project engineering with coordinating various field activities, preparing a new baseline schedule for the project incorporating work completed and estimating balance of work along with cost and resource requirements. Angri also developed weekend outage schedule incorporating

ANGRI SRINIVAS, PMP (CONTINUED)

round the clock shift work on express tracks between operating local tracks by creating work zones/foul time. He prepared monthly updates that were used as a basis for preparing the monthly report covering items such as work progress, cost and cash projections.

Southeastern Pennsylvania Transportation Authority, Transformer Rooms Modernization, Philadelphia, PA

Senior project control engineer whose responsibilities involved in the project of modifying, expanding, upgrading and/or relocating existing transformer rooms to accommodate new equipment while maintaining dual power service during construction. He prepared baseline schedule and performed monthly updates. Weekly and monthly meetings were part of the job.

MTA - New York City Transit, Coliseum Bus Depot, Bronx, NY

Senior project control engineer on this project which involved construction of a bus depot including office building with various systems, such as gas detection system, fire alarm system, profiling area, bus wash system, high pressure and parallelogram lifting, security systems with CCTV, HVAC, boiler room, parking lots, and fencing. After the original contractor defaulted on the contract, Angri prepared a new baseline cost and schedule incorporating work completed and estimating balance of the work along with resource requirements while performing multiple iterations with alternate sequencing to achieve the shortest overall project duration. Angri was part of all project design coordination, issues resolution, progress and schedule control meetings with NYCT personnel, performed monthly reports and incorporated changes as needed.

New Jersey Transit, MMC Facility Expansion, Kearny, NJ

Senior project control engineer who was responsible for reviewing and approving the contractor prepared specifications, schedule, attending monthly progress, information coordination and resolution meetings, and reporting on the project status based on review of the monthly progress. He also evaluated time-impact analysis submitted by the contractor and made recommendations to NJ Transit.

AMTRAK, Fire and Life Safety Program, New York, NY

Senior portfolio management engineer at Amtrak this assignment included managing multiple projects related to the Fire & Life Safety improvements at Tunnels (North River & East River) and also at Penn Station. Major projects included the Mechanical and Electrical Rehabilitation and Modification at Penn Station, Interim Fire Stand Pipe System, Ventilation System at North & East River Tunnels and Tunnel Structural Rehabilitation. The Total Fire and Life Safety Improvement Program included approximately 45 projects spanning till 2010 with a budget of approximately $1 billion shared by Amtrak/LIRR/NJT.

MIKE DEBIAK, EVP, PMI-RMP

Role:
Risk Management

Firm:
HNTB

Education:
BBA, Acquisition and Contract Administration, Strayer University, in progress

AS, Civil Engineering, University of Hartford, 1991

Registrations:
Risk Management Professional (PMI-RMP)

Planning & Scheduling Professional (PSP)

Earned Value Professional (EVP)

Construction Documents Technologist (CDT)

Master Format Accredited Instructor (MAI)

Alternative Dispute Resolution

OSHA 10 Hour

OSHA IIPP/200

Safety Manual Development

OSHA Competent Person

Confined Space Training

DOT FH-181/FH-126F

HAZ-MAT Handling

Domestic Preparedness Awareness

Expedition Certification

P3, P3e/c, and P6 Advanced Methods Certification

Mike is an associate vice president and regional director of risk and scheduling. In this role he engages all team members to participate in the process of finding practical solutions that encourages proactive problem solving. He emphasizes sound business-focused decision making and ethics, while working to achieve optimal project outcomes. He draws upon my experience as an owner/developer, consultant and contractor to provide a clear perspective of the concerns of all participants in the project.

In addition to expertise in the traditional program and project controls functions - CPM scheduling, cost control and change management, and estimating- Mike is skilled in facilitating risk analysis workshops, performing Monte Carlo risk analysis, risk analysis tools, earned value management systems (EVMS), advanced cash flow analysis, claims mitigation, creating and implementing economic planning models, building and analyzing forensic schedules, and developing and globally deploying technology solutions and systems integrations. He employs the latest versions of Oracle Primavera's Project Portfolio Management (PPM) solutions - P6 Professional Project Management, Risk Analysis (PertMaster and Crystal Ball), Contract Manager (Expedition), and Earned Value Management, and the latest versions of Bentley's suite including Microstation and ProjectWise, and a suite of other tools including @Risk, CostWorks, Milestone Pro, Project 2007, Meridian Prolog, Project 4D, NavisWorks, Revit, Prism, MS Access, and SharePoint. In addition we employ proprietary and patented tools such as Base4D, DashPort, Braxis, and TrueViz.

Mike also has expertise in all forms of project and program delivery methods for all forms of design and construction including complex federal, public, and private infrastructure and transportation projects from the perspective of his many roles including at-risk self-performing general contractor, construction manager, and owner agent, for projects both domestic and international. He has managed capital program portfolios totaling more than $3.5 billion annually and executed procurement and logistic strategies for globally sourced programs valued at nearly $1.0 billion. His project experience includes:

Florida Department of Transportation, High-Speed Rail Program, Tallahassee, FL
Risk manager responsible for providing risk management, conducting risk workshops and strategy sessions, analysis using Monte Carlo simulations, and mitigation for FDOT in programming the states advancement of high-speed rail during the program planning stage. $Multi- Billion.

WSDOT, SR99 Bored Tunnel Alternative, Seattle, WA
Risk manager responsible for providing risk management, conducting risk workshops and strategy sessions, analysis using Monte Carlo simulations, and mitigation for the design-build team in partnership with Dragados and Tutor Perini. $1.5 Billion.

MIKE DEBIAK, EVP, PMI-RMP (CONTINUED)

Affiliations:
Construction Specification Institute, Past Institute Director

Construction Management Association of America

Project Management Institute

PMI College of Scheduling

PMI Risk Management Association for the Advancement of Cost Engineering Society for Risk Analysts

National Defense Industry Association, Schedule Risk Sub-Committee Chair

Years of Experience:
29

Employment History:
2009 - Current
HNTB Corporation

2006 - 2009
Jacobs Global Buildings

2005 - 2006
Jerome J Parks Company

2001 - 2005
DMJM Harris | AECOM

1997 - 2001
Roy Kay, Inc./KeySpan Business Solutions

1991 - 1997
Sagacity Management and Consulting

1981 - 1991
Naek Construction Company

Amtrak, Chicago Union Station Improvement Project, Chicago, IL

Deputy design manager – operations responsible for financial and design management for selective demolition and replacement of the rail yard switch, signaling, and accessory appurtenances . A design-build project in partnership with Kiewit Construction. $86M

MTA - Long Island Rail Road, Atlantic Avenue Viaduct Phase II, New York, NY

Senior project controls manager responsible for providing project design schedule management and EVM analysis and reporting for selective demolition and replacement of the rail bridge spans. A design-build project in partnership with Kiewit Construction.

New Jersey Transit, Portal Bridge Capacity Enhancement Project, Constructability Task Force, Secaucus, NJ

Senior risk analyst and master scheduler responsible for providing project integrated master CPM and detailed design schedules, EVM analysis and reporting, and schedule and cost risk analysis with Monte Carlo simulations. Work includes constructability reviews and integration of rail systems components with the structural and civil design. Other responsibilities include review of capital cost estimates, construction staging, and contract packaging. $1.5 Billion

Metropolitan Sewer District of Greater Cincinnati, West Branch Muddy Creek Project Bundle, Cincinnati, OH

Senior risk analyst and master scheduler responsible for providing project integrated master CPM and detailed design schedules, EVM analysis and reporting, and schedule and cost risk analysis with Monte Carlo simulations. An 18-month advanced study, planning and alternative analysis of $150 million bundle of projects to eliminate sanitary sewer overflows and reducing combined sewer overflows in the West Branch Muddy Creek sewer basin. This is the first major project bundle of the 20-year sewer upgrade and rehabilitation program. $2.0 billion

New York State Department of Transportation, Replacement of the Belt Parkway Bridge over Mill Basin and Gerritsen Inlet, Brooklyn, NY

Senior project controls manager responsible for providing project design schedule management and EVM analysis and reporting for design of replacement bridge. The project includes replacement of the existing bascule bridge with a new high-level fixed bridge on a new alignment. Because of the new alignment, approximately one mile of highway approaches requires reconstruction. As part of the approach work, HNTB is preparing the design and construction documents for the new horizontal and vertical alignment, pavement reconstruction, drainage and grading, utilities relocation, temporary and permanent lighting, landscaping, wetland mitigation and maintenance and protection of traffic.

GLENN RIDSDALE, PE

Role:
Standards & Procedures

Firm:
HNTB

Education:
MS, 2005, Organizational Leadership, Philadelphia Biblical University

Mass Transportation Management Institute, 1988, Northeastern University

MS, 1978, Civil Engineering, New Jersey Institute of Technology

BS, 1974, Civil Engineering, Newark College of Engineering

Registrations:
Professional Engineer:
NJ/1979, #[redacted]
NY/1986,

Affiliations:
American Public Transit Association

Project Management Institute

Years of Experience:
31

Employment History:
2009 - Current
HNTB Corporation

New Jersey Transit
1981 - 2009

The RBA Group
1978 - 1981

Goodkind & O'Dea
1974 - 1978

Glenn has 31 years of experience in QA/QC and project/facilities management. He possesses strong skills in project and program management, organizational performance and development, construction and oral/written communications. His project experience includes:

Port Authority of New York and New Jersey, Civil Engineering Services On-Call: PATH Harrison Rail Transfer Yard, Harrison, NJ

Quality manager overseeing design of the expansion of the West Yard and South Loop Yard at the Harrison Car Maintenance Facility. The project involved the preparation of plans and specs, cost estimates and construction support. This task also included the development of specifications for the separate procurement of concrete ties and special trackwork.

New Jersey Transit, Portal Bridge Capacity Enhancement, Secaucus, NJ

Project quality manager for all design activities undertaken by HNTB on this project for NJ Transit to replace the existing moveable span bridge carrying Amtrak's Northeast Corridor over the Hackensack River. The project will not only replace the existing span with two new fixed spans, but also expand the overall capacity and operational flexibility of the Northeast Corridor in this area in support of the Trans-Hudson Tunnel Program. Glenn's responsibilities include ongoing oversight of the design procedures and processes to ensure compliance with the Quality program, as well as integration of the work into the efforts of the other members of the design team.

New Jersey Transit, Atlantic City Rail Line Operational Assessment, Atlantic City, NJ / Philadelphia, PA

Infrastructure task leader responsible for all HNTB work, which includes development of conceptual level plans of all improvements, assessment of possible impacts and preparation of cost estimates. HNTB is examining the necessary infrastructure improvements which can be made to improve the frequency and flexibility of rail service between Atlantic City, New Jersey and Philadelphia, Pennsylvania.

New Jersey Transit Corporation

While working for New Jersey Transit, Glenn held several positions, including chief engineer, and was responsible for facilities management, engineering, design, construction and project management. Glenn led development and implementation of Standard Project Operating Procedures, establishing quality standards and processes to confirm consistent project delivery and meet user expectations. Glenn taught these procedures to more than 400 individuals from all facets of the NJT organization through the project management training program and established a clear understanding of the preferred project delivery process. Glenn established a quality unit within the engineering division to provide ongoing oversight and support to the delivery process, update and maintain these procedures, develop and deploy best prac-

GLENN RIDSDALE, PE (CONTINUED)

tices, track and monitor quality processes, and provide a resource to project managers in delivering their projects.

Specific Project Accomplishments while at New Jersey Transit include:

Statewide Rail Yard Master Plan, Statewide, NJ

Project manager for development of a long-range plan to upgrade commuter rail maintenance and storage facilities to accommodate on-going system growth and planned major system expansion as a result of the 2017 opening of the new Trans-Hudson Rail Tunnel. This 15-year, $1.1B plan identified expansion plans for four locations, establishment of three new storage yards, and addition of service and inspection as well as running repair capability at key locations.

Newark Light Rail Modernization, Newark, NJ

Project director for the $375 million rehabilitation/expansion of the existing 4.5-mile light rail system, including introducing new low-floor light rail vehicles. Work included new traction power and signal systems, replacement of the existing overhead contact system, rehabilitation of four stations for full ADA accessibility and a ventilation system for the one-mile downtown tunnel. To accommodate new vehicles a 1.1-mile extension with two new stations was constructed to access a new vehicle base facility. Work was concurrently advanced for a one-mile downtown extension linking the two major commuter rail stations serving the downtown area. A major component of the work included the necessary quality and safety documentation to obtain the Office of State Safety Oversight approval to begin revenue service.

Rail Facility Improvement Program, Statewide, NJ

Project director for development of an on-going program to address "state of good repair" needs for 165 existing rail stations and related support facilities. Major construction activities advanced through this annual program ($4 million to $7 million) included new platforms and passenger shelters at existing stations, historic station renovations, parking expansions, crew facilities at yards and shops, and environmental site remediation efforts. A key element of the construction phase services included coordination with regulatory organizations such as the NJ Department of Community Affairs regarding construction quality issues to ensure issuance of Certificates of Occupancy upon project completion.

Newark Bus Facility, Newark, NJ

Project director for the rehabilitation/expansion of the existing manufacturing facility to a 600,000-square-foot complex providing a central maintenance facility, central storeroom, 200-bus operating garage, and non-revenue repair facility. Work included initial site location studies, conceptual planning, environmental review, final design, construction management and relocation planning/oversight.

D. FIRM EXPERIENCE

HNTB EXPERIENCE

PROGRAM MANAGEMENT EXPERIENCE

HNTB is a preferred provider of program management services to major transportation agency clients nationwide. Over the past decade, these agencies have seen their fiscal and human resources shrink, while at the same time, their needs have grown disproportionately. As a result, more and more agencies have increasingly relied upon program management strategies to deliver transportation improvement projects in a timely, coordinated and cost-effective fashion.

HNTB's track record as a pioneer in program management assignments includes services to agencies in New Jersey, Pennsylvania, Washington, Texas, Missouri, Illinois, Minnesota, California, District of Columbia, Mississippi, Michigan, Utah and Florida. Our expert program management staff continuously take best practices and lessons learned in the evolution of the industry and applies them to gain time- and cost-efficiencies for our clients. The list to the right is a sampling of HNTB's involvement in program management contracts and highlights our team's qualifications, as well as demonstrates our ability to plan programs, manage schedules and budgets, stretch resources and ultimately deliver capital improvement projects for our clients.

Often, because of a client's or agency's size, we have served as the overall project administrator and directed all of the design and construction engineering on major projects. As a result, to name a few, our firm was the first program manager selected by the Illinois Department of Transportation, Missouri Department of Transportation, Kansas Department of Transportation, Ohio Turnpike Commission and Ohio Department of Transportation to oversee some of their complex programs.

AUTHORITY EXPERIENCE

Currently holding 13 on-call contracts, HNTB has provided multi-discipline services to the Authority for nearly 30 years on projects such as:

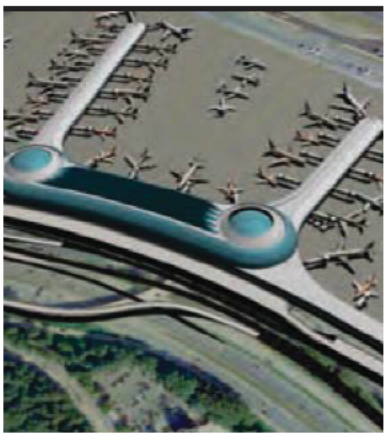
- George Washington Bridge Upper Level Structural Steel Rehabilitation
- Call-in Security Improvements at Authority Facilities, and the Exchange Place Improvement
- Goethals Bridge Modernization Program
- Planning Call-in
- Structural Call-in
- ITS Call-in

Select HNTB Program Management Contracts

- New Jersey Turnpike Authority, Program Management for Interchange 6 to 9 Widening Program - $2 billion
- Pennsylvania Department of Transportation, District 6 Design Management - $500 million
- Illinois State Toll Highway Authority, Program Management for Congestion Relief Program - $6.3 billion
- Denver International Airport Redevelopment Program - $1 billion
- Washington State Department of Transportation, I-405 Program Management - $5 billion
- San Diego Association of Governments, Program Management - $14 billion
- Florida's Turnpike Enterprise, Program Management - $2.2 billion
- Utah Department of Transportation, I-15 Program Management - $5 billion
- Bay Area Rapid Transit, Seismic Retrofit Program Management - $1.3 billion
- North Texas Tollway Authority, Program Management, Capital Improvement Program - $7 billion
- Port Authority of New York and New Jersey, LaGuardia Airport Program Management Services - $4 billion
- Delaware River Port Authority, Program Improvement Services for Capital Improvement Projects - $1.2 billion

- Civil/Rail Call-in
- CM Services Call-in
- Traffic Call-in
- Architectural Call-in
- PATH Security Program
- Expert Professional Engineering Services
- Security Program
- Building Facilities Call-in
- Tunnel Call-in
- Asset Management Call-in

HNTB is eager to continue the relationship that we have developed with the Authority, while incorporating the "lessons learned" through our experience with working on numerous projects for the Authority. HNTB's relevant project experience begins on page D.2.



LAGUARDIA AIRPORT TERMINAL PROGRAM MANAGEMENT SERVICES, FLUSHING, NY

HNTB is currently serving as program manager for the LaGuardia Airport Central Terminal Building Modernization Program (LGA CTB). LaGuardia Airport served approximately 23 million passengers in 2008 through its 72 aircraft gates on the 680-acre site. HNTB is tasked with achieving the client's expectations, providing project management services as part of this program. This $4 billion planned rebuild of the 45-year-old CTB includes the 38-gate terminal building complex with a main terminal and several concourses, as well as a 5,600-car parking garage and a completely new roadway access system. HNTB is performing airside improvements, including new taxiways, taxi-lanes, aircraft aprons, hold-pads, remain overnight aircraft aprons, and potential new de-icing pads. Tasks also include new surface parking lots, commercial vehicle staging areas, utilities, general site work and landscaping, potential future right of way for subway access, central heating and refrigeration plant, and a central electrical substation.

Innovative concepts:

- Proposing alternate delivery methods, including design-build, DBOM, and construction manager at-risk, and Integrated Project Delivery.
- Proposing private sector participation to provide alternative funding and a reduction of "soft" project costs.
- Alternative operating scenarios, including third-party management and operations.
- Alternative leasing models, including Common/Preferential use.
- Project management tools/project controls, including BIM 4th dimension capabilities.
- BIM 3D Modeling, including 4-5 Dimensional tools like cost estimating and facility management.
- Sustainable solutions, including development of the sustainable design Master Plan.

CLIENT REFERENCE:
Michael Moran
Port Authority of New York and New Jersey
(718) 533-3509
mmoran@panynj.gov

START DATE:
2009

COMPLETION DATE:
Ongoing

PROJECT COST:
$4 billion

INTERCHANGE 6 TO 9 WIDENING PROGRAM, VARIOUS LOCATIONS, NJ

HNTB is providing program management services for the Interchange 6 to 9 Widening Program. The project entails modifying four major interchanges and widening 33 miles of turnpike from six to 12 lanes between milepost 48 and milepost 74, and from 10 to 12 lanes from milepost 74 to milepost 83. One hundred and seventy lane miles will be added to the Turnpike system at a cost of $2 billion. The program extends through 11 communities in three counties of central New Jersey. In addition to the enormous scope, the project involves many complex environmental challenges, including mitigating major wetland damages and designing to conform to new, stringent stormwater management regulations.

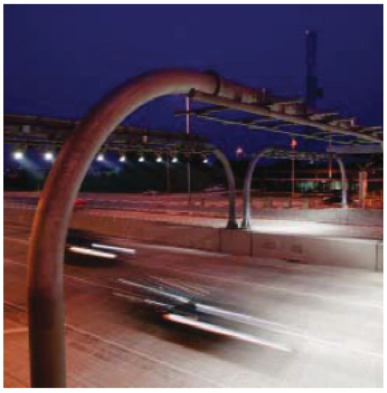
As program manager, HNTB will assist the NJTA in delivering complete construction contract documents and providing support during construction as needed. The assignments comprise managing and coordinating the efforts of nine engineering design teams, as well as legal and real estate firms. HNTB services will include monitoring and maintaining quality and performance standards, program budget cost and schedules.

CLIENT REFERENCE:
Richard Raczynski
New Jersey Turnpike Authority
[redacted]

START DATE:
2006

COMPLETION DATE:
Ongoing

PROJECT COST:
$2 billion



ILLINOIS TOLLWAY PROGRAM MANAGEMENT AND PROJECT CONTROLS, DOWNERS GROVE, IL

As members of the Program Management Office for the Illinois Tollway's $6.3 billion Congestion-Relief Program (CRP) – Open Roads for a Faster Future, HNTB manages a portfolio of projects to achieve objectives within the time and budget parameters. The goal is to rebuild nearly the entire Tollway system, which means widening and constructing 276 miles of existing highways and constructing a new 12.5-mile extension of a major corridor. It is projected that the plan will improve mobility in 12 counties, reduce daily commute times by 20 minutes a day, and will provide a positive economic benefit to communities. Since the inception of the PMO program in 2004, over $3.6 billion of construction-related contracts have been awarded and over $2.9 billion of construction improvements have been completed; all were completed on-time and within budget. Key PMO accomplishments to date include:

- Nearly $4.0 billion in construction work has been obligated, which represents approximately 58.3-percent of the CRP program budget.
- $700 million in consultant services have been committed to-date, which represents approximately 11-percent of the CRP program budget.
- $163 million in other costs, including utilities, right-of-way and miscellaneous items have been committed to date, approximately 2.5-percent of the CRP program budget.
- $4.8 billion, approximately 73-percent of the CRP program budget has been committed.
- $57.8 million in reimbursement agreements have been approved to date, reducing the overall program cost by 0.9-percent.

CLIENT REFERENCE:
Paul Kovacs
Illinois Tollway
[redacted]

START DATE:
2005

COMPLETION DATE:
Ongoing

PROJECT COST:
$6.3 billion

BAY AREA RAPID TRANSIT (BART) EARTHQUAKE SAFETY PROGRAM, SAN FRANCISCO BAY AREA, CA

HNTB is providing program management and design support services for the $1.3 billion BART Earthquake Safety Program (BART ESP). During the design phase, we were also responsible for general engineering and design oversight.

The original BART system is more than 75 miles-long and includes over 1,900 aerial structures, numerous underground, at-grade and aerial stations; the Transbay Tube; and miscellaneous BART building/maintenance facilities and systems. Under the comprehensive program, HNTB analyzed all of these elements in the original BART system and are being retrofitted to protect public safety and BART's substantial capital investment.

HNTB was the lead bridge designer for the program, establishing criteria for the analysis, evaluation, performance and design of the nearly 25 miles of aerial guideway structures. The retrofit designs of the BART aerial structures had to overcome a number of complex challenges, including near field ground motions from the San Andreas and Hayward Faults, crossing two other active faults, deep Bay Mud, soil liquefaction, large variations in structure types, constrained construction areas, and operational and safety considerations of the active BART train operations. To meet these challenges while keeping within the overall project budget, HNTB and the BART ESP team developed innovative retrofit solutions such as base isolation using foundation rocking to limit forces into the columns and superstructure, allowing inelastic action in the pile foundations where operability was not required.

CLIENT REFERENCE:
Tom Horton
Bay Area Rapid Transit District
[redacted]

START DATE:
2000

COMPLETION DATE:
Ongoing

PROJECT COST:
$1.3 billion

PROGRAM MANAGEMENT OFFICE/GENERAL ENGINEERING CONTRACT, TX

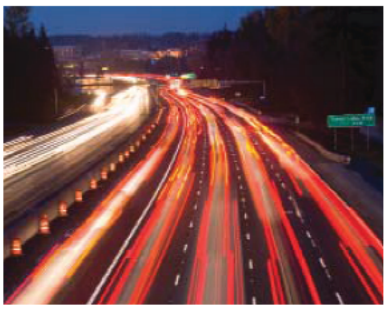
HNTB provides global program and construction management oversight for all services on major corridors under construction. The firm is responsible for managing all consultants providing construction management services and will coordinate construction schedules, see that construction managers are following NTTA construction manual and procedures, and assess contractor claims. Although NTTA uses consultants for all construction management services, the consultants are not in a position to make decisions regarding construction change orders. HNTB implemented a system where proposed change orders from contractors are immediately brought forth by the construction manager so an NTTA committee can make a decision on the change order. This allows the construction manager to enforce the contract, but any cost change is controlled by NTTA. This effort parallels the efforts implemented at the Illinois Tollway and put into practice by the Contract Cost Change Controls Committee (C5), which is the authorized panel who recommends or rejects Change Orders and Extra Work Orders, and is chaired by the Tollway's Deputy Chief Engineer for Program.

CLIENT REFERENCE:
Gerry Carrigan
North Texas Tollway Authority
[redacted]

COMPLETION DATE:
2007

COMPLETION DATE:
Ongoing

PROJECT COST:
$7 billion



I-405 CORRIDOR PROGRAM GENERAL ENGINEERING CONSULTANT CONTRACT, KING AND SNOHOMISH COUNTIES, WA

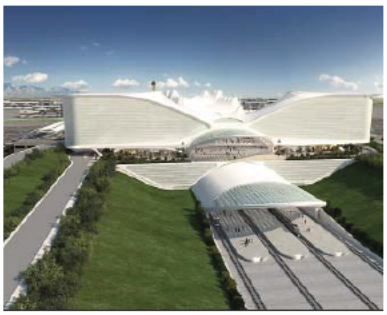
HNTB is the general engineering consultant for the reconstruction of 30 miles of I-405, one of the most congested freeways in Washington. As the owner's representative for design-build, HNTB is responsible for providing program management, conceptual design and cost estimating, public involvement, environmental clearance/permitting, right-of-way acquisition, design-build program requirements, oversight and construction management for the currently funded $1.6 billion program. Projects under this program include the I-405 Corridor Program Context Sensitive Solutions Process, Congestion Relief and Bus Rapid Transit Corridor and Stormwater Strategy. Additionally, HNTB has developed preliminary engineering and program requirements for several design-build requests for proposal to date, such as Kirkland Nickel Stage 1, NE 10th Street Bridge Crossing Stage 1, NE 10th Street Bridge Crossing Stage 2, South Bellevue Widening Project, Renton Stage1 Widening Project, Renton Stage 2 Widening, SR 515 Interchange Project, and Spring Creek Wetland and Habitat Mitigation Bank Project.

CLIENT REFERENCE:
Kim Henry
Washington State Department of Transportation
[redacted]

START DATE:
2002

COMPLETION DATE:
Ongoing

PROJECT COST:
$5 billion



DENVER INTERNATIONAL AIRPORT REDEVELOPMENT PROGRAM, DENVER, CO

Denver International Airport has engaged the services of HNTB to provide program management services for the terminal expansion, RTD stations, new roadways, Automated People Mover expansion, hotel and existing terminal renovations. The PM/Design team will develop a program and ultimately, program definition packages, for each component of the overall terminal expansion to allow for future growth.

Visioning and conceptual design for the $1 billion expansion will include a change of use for major portions of the Terminal, expansion of the Terminal curbside areas, addition of a train station for FasTracks, expansion of the existing Terminal with connecting bridges, airport hotel, landside roadway improvements/expansions, Federal Inspection Service facility expansion, all security checkpoint reconfiguration, and FasTracks/Pena Boulevard bridges. Scope of services includes evaluation and incorporation of sustainable design strategies for possible LEED certification.

CLIENT REFERENCE:
David Rhodes
Department of Aviation for the City and County of Denver
[redacted]

START DATE:
2008

COMPLETION DATE:
Ongoing

PROJECT COST:
$1 billion

I-15 UTAH COUNTY CORRIDOR PROGRAM MANAGEMENT, DESIGN-BUILD GENERAL ENGINEERING CONTRACT, UT

As the Owner's Representative, HNTB was selected by UDOT in Spring 2008 to perform Design-Build Program Management Services for the Interstate 15 Utah County Corridor Reconstruction (CORE) program. HNTB is providing program management services including project controls, quality management, and public information; preliminary engineering including roadway, structures, traffic engineering, drainage, utilities, and geotechnical work; right-of-way services; and oversight of and contract administration for the design-build procurement, design, and construction processes. The team consists of a combination of co-located staff and remote design centers, linked by technology to facilitate effective communication, providing UDOT with immediate access to additional staff resources as needed. HNTB's scope of work includes cost/risk assessments with the explicit goal of maximizing the extent and effectiveness of the corridor improvements within the budget allocated by the legislature.

The Utah legislature has appropriated $2.6 billion for the improvement of the I-15 Corridor in Utah County, part of an overall 43-mile corridor improvement plan estimated to cost in the range of $5 billion. The project will add additional capacity to I-15 and reconstruct nearly every interchange to accommodate significant growth that is occurring in Utah County. With the signing of the NEPA EIS Record of Decision in August 2008, UDOT moved forward with plans to issue a Design-Build Request for Proposal in Spring 2009 to allow construction to start in Spring 2010, with 2014 as the target date for completion of construction of the initial improvements.

CLIENT REFERENCE:
Dal Hawks
Utah Department of Transportation
[redacted]

START DATE:
2008

COMPLETION DATE:
Ongoing

PROJECT COST:
$5 billion

PROGRAM MANAGEMENT SERVICES FOR CAPITAL IMPROVEMENT PROJECTS, DE

HNTB was recently selected by the Delaware River Port Authority (DRPA) to serve as program manager of their $1.2 billion capital improvement program over the next five years.

The DRPA is embarking on the largest capital improvement program in the agency's history. Lacking adequate staff in-house to manage the program, the Authority selected HNTB to provide program management and project delivery assistance. The task order based assignments will include "cradle to grave" services across the Authority's four bridges, the PATCO Commuter Rail Line, the Philadelphia Cruise Terminal, and the RiverLink Ferry System, along with their extensive network of roadways and operations and support facilities.

As part of the contract, HNTB will be responsible for program management, project controls, scheduling & estimating, project management, design review services, including civil, structures, traffic, ITS, MEP, architecture, marine, and geotechnical, and construction management/inspection.

CLIENT REFERENCE:
Michael Venuto, PE, PLS
Delaware River Port Authority
[redacted]

START DATE:
2009

COMPLETION DATE:
Ongoing

PROJECT COST:
$1.2 billion

PROGRAM MANAGEMENT AND RELATED SERVICES, SAN DIEGO, CA

CLIENT REFERENCE:
Richard Chavez
San Diego Association of Governments
[redacted]

START DATE:
2008

COMPLETION DATE:
Ongoing

PROJECT COST:
$14 billion

HNTB is currently providing services related to program management as part of this on-call contract. These services assist San Diego Association of Governments (SANDAG) and Caltrans with managing the TransNet program by providing a framework for coordinating the efforts of many agencies and stakeholders. HNTB has helped SANDAG enhance processes and tools for managing scope, schedule and budget for projects within the six TransNet corridors. Project examples include:

I-15 Managed Lanes North Segment Widening - HNTB was responsible for final civil and structural design services as part of multiple contracts with SANDAG along the I-15 Corridor located between SR 163 and SR 78. This managed lanes corridor project is a $1 billion, 20-mile, state-of-the-art facility that will be the world's first use of fully dynamic variable pricing. HNTB also completed final design services for the 2.3-mile I-15 North Segment of the I-15 Managed Lanes project which will accommodate four buffer-separated high occupancy vehicle lanes in the current freeway median. In addition to widening the roadway, the project includes significant design services for undercrossing structures and on- and off-ramps. Additionally, HNTB was responsible for preparing type selection reports and cost estimates for five bridges: South Direct Connector and Clarence Lane, Citracado Parkway, Flecita Road and 9th Avenue Undercrossings.

Los Angeles-San Diego (LOSSAN) Rail Corridor - This project is part of a larger, multi-year effort to provide a parallel double track on the LOSSAN corridor across Camp Pendleton and through the city of Oceanside to improve commuter and freight rail service, and reduce conflicts leading to train idling and delays. The project consists of upgrading approximately 5.8 miles of single-track rail between the San Onofre and Las Pulgas Canyon control points to double-track rail. In addition to the existing rail line, the project proposes constructing one new single-track bridge, one new double-track bridge, new retaining walls and a new universal crossover on the northern end of the segment.

The project is within the Camp Pendleton Marine Corps base, a large land area generally off-limits to the public that contains areas of high quality habitat and is home to numerous endangered species, as well as to Native American archaeological sites. HNTB's environmental staff prepared a constraints analysis to identify sensitive resources within the project limits, which included conducting a wetland delineation and cultural resources assessment, evaluating fossil resources and creating a geographic information system database that mapped these resources. With this information, the environmental staff worked with the base staff and project designers to modify the project design to avoid these resources where possible. In many locations, we evaluated the project to determine the comparative benefits of using retaining walls or vegetated slopes to reduce habitat impacts. The project is now progressing to 60-percent design and current work includes preparing an environmental document and meeting with resource agencies to discuss permitting.

GEORGE WASHINGTON BRIDGE MAIN SPAN UPPER LEVEL STRUCTURAL STEEL REHABILITATION, NY/NJ

HNTB, as part of a joint venture, was selected to provide design services for the rehabilitation of the main-span upper-level deck of the George Washington Bridge. Work on this project included remediation of the priority and routine repairs of the upper level steel, with a particular focus on the orthotropic deck.

During the preliminary engineering phase of the project, HNTB conducted a detailed field inspection, prepared a report detailing all the repairs required, and provided conceptual design for each repair type. As many of the repairs were located in the orthotropic deck, HNTB conducted a detailed fatigue life evaluation of the existing deck. In order to accurately assess the remaining life of the structure, a Weigh-in-Motion study was performed to determine the actual weight of trucks crossing the structure. To enhance the fatigue life of the structure, a partial replacement of the orthotropic deck was recommended. A detailed life cycle cost analysis was performed to determine the preferred option between no repair, partial replacement or total replacement. Partial replacement with priority repairs was the recommended alternative. HNTB provided final design services for the partial replacement of the orthotropic deck, priority and routine repairs. Additionally, a prototype replacement of the finger joint and drainage improvements were included in the contract.

CLIENT REFERENCE:
Stewart Sloan
Port Authority of New York and New Jersey
(973) 792-4534
ssloan@panynj.gov

START DATE:
2007

COMPLETION DATE:
Ongoing

PROJECT COST:
$140 million

A/E SERVICES ON-CALL AT NEWARK AIRPORT, NEWARK, NJ

A team led by HNTB Corporation was selected by the Port Authority of New York an New Jersey to provide miscellaneous architectural and engineering design services for the New Jersey Airports, specifically Newark International Airport and Teterboro Airport. The contract consisted of miscellaneous architectural, engineering and planning design assignments, including roadway design, airside aircraft apron design, building design, including parking structures, and special studies. The Team assisted the Authority as an extension of their professional staff as they embarked on their ambitious Newark Redevelopment Program.

The HNTB Team provided services for three architectural design assignments, including the interior finishes to the Northeast Corridor Monorail Station, architectural design and details of the Lot E Parking Structure and Monorail Station modifications, and the relocation and design of a new Administration Building for Newark Airport. The architectural assignments include assistance in Stage II design, preparation of Stage III contract documents and Stage IV, construction administration services.

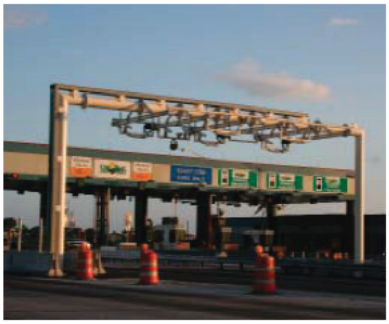
In addition, the HNTB Team completed services for the following engineering assignments: a feasibility study and structural design for the expansion of the central heating plant; a structural systems study for the proposed Central Terminal Area (CTA) Garage; preparation of contract documents for the demolition of Buildings 150 and 153 to prepare the site for the new Administration Building; tidal gate replacement; airside north area drainage; and the preparation of a study and civil and structural engineering services for the Southerly Access Roadway Program (SARP) from Exit 13A of the New Jersey Turnpike.

CLIENT REFERENCE:
Michael Valletta
Port Authority of New York and New Jersey
(201) 595-4748
mvallett@panynj.gov

START DATE:
1999

COMPLETION DATE:
2001

PROJECT COST:
$150 million



FLORIDA'S TURNPIKE ENTERPRISE (FTE) GENERAL CONSULTANT, ORLANDO, FL

HNTB serves as one of two general consultants selected to deliver Florida's Turnpike Enterprise five-year, $2.2 billion dollar work program. FTE is responsible for toll operations on every toll road and bridge owned and operated by the Florida Department of Transportation, and collects nearly $600 million in toll revenue annually.

HNTB has been providing services to the Turnpike since its inception in 1957. In this role, HNTB serves in the areas of production support, including project management, design support and oversight (both engineering and architectural), environmental management, contractual services, right-of-way, asset management, information systems, document management, toll operations, and concepts/planning.

The five-year contract consists of a series of six-month work authorizations which are renegotiated at the end of each authorization period dependant on upcoming workload and anticipated expenditures. Currently, there are 36 individuals on the HNTB contract (including subconsultants) who work in the FTE offices, with additional on-call support personnel available from HNTB's home offices. As FTE's work program reduces or expands, the number of HNTB personnel is adjusted accordingly.

CLIENT REFERENCE:
Kevin Thibault, PE
Florida's Turnpike Enterprise
[redacted]

START DATE:
2008

COMPLETION DATE:
Ongoing

PROJECT COST:
$2.2 billion

E. MANAGEMENT APPROACH

MANAGEMENT APPROACH

HNTB has extensive expertise in managing task order ("call-in") agreements for the Authority, as well as other transportation agencies in the New York Metropolitan region, and many others across the country. HNTB's tradition and culture of providing project and program management services results in managers and support personnel who remain sensitive and attuned to exactly how critical each specific task assignment can be in terms of providing assistance to the Authority in supplying transportation, terminal and other facilities of trade and commerce to the Port District.

Our proposed organizational structure, which is depicted by the organizational chart located on page E.2, has been assembled to allow HNTB to remain responsive to the Authority's needs for the duration of this "call-in" contract and to make sure the HNTB Team is able to provide the requisite services in support of the Authority's comprehensive set of business lines. HNTB has similarly executed a task-order management approach, which will allow us to remain responsive to the Authority's needs, making sure experienced and qualified personnel are assigned to your projects, the scope of services is clearly defined, and the associated fee proposal remains within your expectations. We are fully committed to performing our services under each assignment with a focus on 4for4 performance: Quality Work, On-time, Within Budget and to Your Satisfaction.

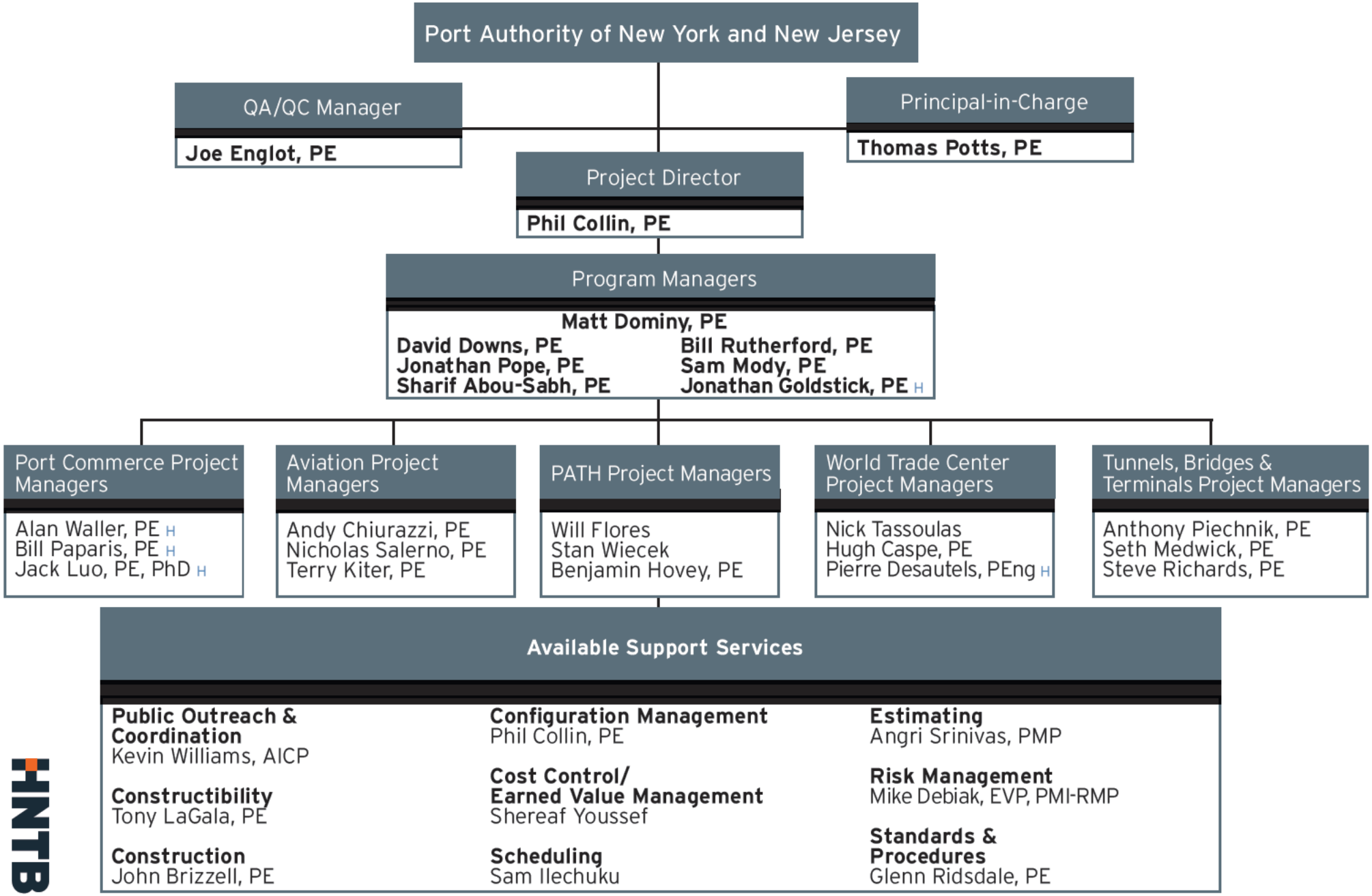
Our management approach for the Performance of Expert Professional Project Management Services as Requested during 2011, 2012, 2013 and 2014, offers the following:

An experienced project director who operates as your single point of contact. Phillip Collin, PE, will be committed to the Authority as project director. Phil heads HNTB's program controls and construction management department in New York and has worked on many of the region's most critical infrastructure as engineer, manager and project controls specialist. **Phil will remain available to the Authority 24/7 to facilitate any such requests for professional project or program management services on behalf of HNTB**. Upon receiving notice from the Authority of a contemplated task assignment, Phil will quickly meet with the Authority, as appropriate, to develop a concise understanding of the appropriate services required, and identify key staff to fulfill a particular role or responsibility. Phil will identify and assign qualified and technical or support personnel to perform a particular assignment, and will follow up with all other project matters until the assignment has been completed. Phil will continuously track project progress during that period with a focus on client satisfaction and continuous improvement.

Prior to joining HNTB, Joe Englot worked for the Authority for more than 30 years, the last three of which were in an assistant chief engineer, which makes him an invaluable asset to our proposed Professional Project Management Services on-call team.

A coordinated project plan and leadership for each assignment. HNTB will compile a comprehensive, task-specific work plan, including scope, schedule, cost estimate, identification of milestones for deliverables, and any technical reviews to help achieve the Authority's objectives. This includes utilization of the appropriate project management systems and tools to budget and track status, report progress, monitor production, and coordination of overall staff activities. **Our organization structure and key personnel proposed for this assignment are all dedicated HNTB employees, many of which are already knowledgeable in the Authority's facilities, policies and procedures.** Additionally, HNTB project managers are all required to adhere to our "Manual of Professional Practice" and to participate in our training modules such as Work Planning, PM Principals, PM Tools and Earned Value Management (EVM). We are committed to providing the right staff to the Authority for each assignment to work as an extension of your dedicated team in planning, executing and managing the work at hand.

Dedicated senior support staff and executive commitment. HNTB has committed **Thomas Potts, PE,** as principal-in-charge and **Joe Englot, PE,** as QA/QC manager. Thomas is the office leader for HNTB's New York Office and avails himself for this on-call program to provide leadership and commitment, as necessary, to the program, our assigned project staff, and to the Authority throughout the term of the contract.



The HNTB Team

HNTB New York Engineering and Architecture, PC *(an affiliate of HNTB Corp)*

Halcrow, Inc. H

HNTB

In addition to being a dedicated office leader, Thomas continues to build and support HNTB's Program Management and Controls services business lines. Joe serves as HNTB's national director of infrastructure security and prior to joining the HNTB Corporation, he worked for the Authority for more than 30 years, the last three of which were in as assistant chief engineer. Joe currently serves as project manager for critical on-call agreements with the Authority and New Jersey Turnpike Authority and MTA Capital Construction. His knowledge of the Authority's organizational structure and procedures makes him an invaluable asset to you on the overall program and for each individual task order with regard to quality assurance. Both Tom and Joe are available to the you upon request to address any need and will periodically conduct client "audits" to make certain that HNTB is providing 4for4 performance.

We have also included senior project/program managers who are committed to assisting the Authority in overall program success. We have presented a number of program managers as key staff to demonstrate the depth and breadth of senior resources available under this services contract. Each of these individuals has a proven track record of leading large, complex programs throughout the country and will be available at the Authority's request in order to fulfill our obligations.

Business line-specific expertise. To provide the most comprehensive expert professional project management services under the parameters of this agreement, our proposed HNTB technical staff are prepared to demonstrate a breadth of knowledge associated with the identified Authority business lines, which will prove essential to understanding how capital improvement programs and projects may be phased, staged, bid and ultimately constructed at Authority facilities. We have structured our organization to provide a delegation of authority through the project director to a dedicated program or project manager, project engineer or subject matter expert as required for each individual assignment. As such, we have included a number of key staff for each business line to demonstrate our approach and capacity to manage multiple task orders at multiple facilities at any particular time. All of our project managers have been trained to operate under the basic mandates of sound project management principals, including following the concepts of work breakdown structure (WBS) identification and earned value management and S curve analysis. These individuals understand and have extensive experience in working with the various Authority project management reporting systems and software, such as Primavera to perform project planning and scheduling, Expedition to track deliverables and approvals, SAP to monitor project accounting, WINTRAK as a means to coordinate with the CMD, and the InCAPS budgeting program.

Project Director Phil Collin, PE, will remain available to the Authority 24/7 to facilitate any such requests for professional project or program management services on behalf of HNTB.

Please note that we have also included in our staffing plan the additional depth and breadth of technical staff that are available to fulfill any obligation under this agreement. By including Halcrow as a dedicated subconsultant for this agreement, we further bolster the HNTB Team's capabilities in the area of port commerce and marine infrastructure.

We will be focused on addressing each task-order assignment with the appropriate staff relative to the facility, scope and requirements of your request. The following highlights our pledge to successful support for each specific business line:

A. Aviation

- Our staff will be continuously focused on airport operations with respect to hours of work, contractor access and airside security.
- Personnel will provide a knowledge of terminal operations with respect to arrivals, departures, and baggage handling systems and operations; domestic versus international operations and interline connections; security operations; and tenant leases with respect to hours of work, contractor access and mandatory security requirements.
- Our program and project managers will adhere to landside roadway operations, light-rail operations, parking facility operations, and rental car operations with respect to hours of work and maintenance and protection of traffic.
- We remain current with respect to all Federal Aviation Administration guidelines and will apply these rules to all work product and technical reviews.

B. Tunnels, Bridges and Terminals

- Our technical personnel will strictly adhere to TBTA facility hours of work, peak operational

periods, contractor access, coordination with PAPD, site access security protocols and typical MPT lane closures.
- HNTB staff will comply with commuter and long-distance bus operations, express bus lane operations, tolling operations, primary tenant leasing, and general hours of work for bus terminal operations.
- We possess a keen understanding of NYCDOT, NJDOT and local township requirements associated with permitting for street work and will make sure that plans and designs take into consideration these critical factors.

C. Port Commerce
- We will apply our deep understanding of berthing operations, cargo handling and storage facilities, contractor access, site security requirements, primary tenant leases, and general hours of work.
- We will employ our expertise in CSX and Norfolk Southern freight rail operations and regional destinations, primary freight lines in region and rail security requirements and general hours of work.
- Our staff are well versed of current environmental regulations and the issues associated with site excavation, dredging, and the disposal of contaminated soils and will review all technical product for consistency and completeness.

D. PATH
- HNTB personnel will provide a knowledge of transit operations; rail safety and training issues; power and way structures; contractor access to systems; SCADA systems; work-train availability and general hours of work; and operation of signals, switches and track interlocking.

E. World Trade Center
- We will be respectful of the intricate site logistics and complexity of the work downtown with regard to multiple stakeholder involvement.
- We will utilize our intimate knowledge of the day-to-day master program schedule and risk management program to help monitor and manage WTC work in a properly coordinated fashion.

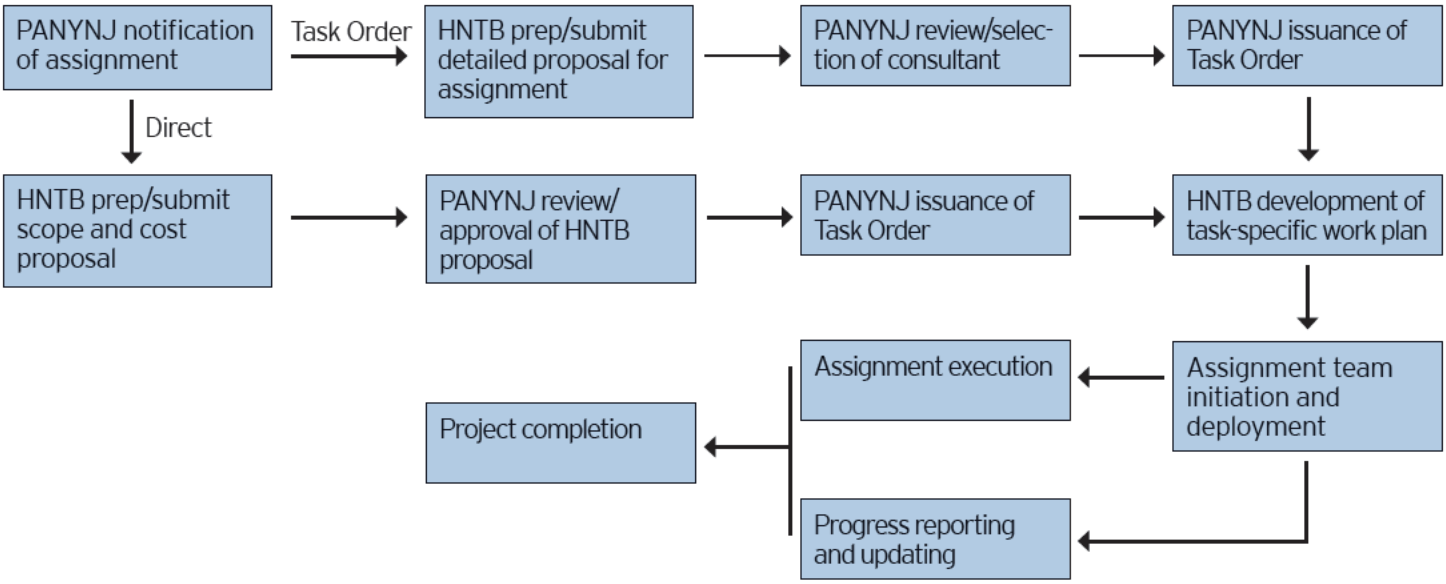
Approach to Tasks
Prior to executing any assignment, HNTB will establish protocols with the individual designated to administer the agreement for the Authority to establish lines of communication and identify the proper format for proposals, salary rosters, out-of-pocket expenses, and invoices to make sure execution and administration of a particular assignment will advance uninhibited.

Requested proposals for assignments will be submitted to the Authority within the identified time frame, including estimated hours of labor for each assigned project responsibility, resources required (general conditions, expenses, and other reimbursable items), a detailed scope of work, and a project staffing schedule.

During the performance of each specific task order, HNTB will provide the continuous client and staff coordination that will be instrumental in maintaining an efficient and quality process in achieving the relative objectives. Once an assignment is underway, the following management tasks will be completed as necessary:

- Labor expended will be charged directly to the appropriate task order by direct coding of individual employee time cards, which are checked weekly.
- All approved direct project expenses and outside service items, will be charged to the appropriate task through direct coding of purchase requisitions and invoices.
- Subconsultant labor and expenses will be shown on each monthly invoice with supporting ledgers clearly depicting the cost attributed to each such task order.
- At the close of each month, the assigned project manager will provide project data to determine progress and an estimate of the direct staff hours and cost required to complete the task.

The HNTB Team will provide the right staff at the right time in response to your anticipated needs.



Actual cost and comparison-to-estimate report will be prepared monthly which will compare the estimated cost of services with actual task-order costs and percent complete.

- Monthly reports will include identifiable production targets and forecast dates for deliverables or completion dates for each authorized task.

HNTB will establish internal procedures, including master agreements with subconsultants, regular monthly reports and documentation of actions taken. The task-order manager will monitor these measures and brief the Authority on regular project progress, as well as identify and discuss issues requiring attention.

The flow chart above illustrates our successful approach to task order or "call-in" response and delivery for similar clients and programs.

In the event the monthly evaluation of cost or schedule for an authorized task indicates a deviation from the authorized budget or schedule, the cause of the deviation will be analyzed and a mitigation plan formulated. Mitigation plans will include an adjustment upward or downward of assigned personnel, overtime, outside experts or allocation of special expertise, if needed. An explanation of any deviation will be discussed with the Authority during the monthly review. Task orders and their associated progress will be monitored individually and collectively for conformance with our overall on-call agreement and the Authority Project Management Manual.

KEEPING THE AUTHORITY INFORMED

As project director, **Phil will serve as your single point of contact to the Authority and will keep the Authority informed of issues and progress during project execution.** He will adhere to the Authority's procedures and protocols for proper reporting and communication, as requested. HNTB has standard operating procedures and policies regarding project reviews and reporting, earned value management, and corrective action that we will employ in your best interest. Phil will develop an open and collaborative relationship with the Authority's representative(s) to instill efficiencies and value to the overall program and to remain nimble and flexible in our approach in serving your needs.

We will develop project-specific reports and communications protocols based on your needs for regular publication, transmittal or discussion. These efforts will result in the right "tools" necessary to inform the Authority, provide a basis for decision making, and to serve as contemporaneous project data for the program and for each task order or assignment.

Other Support Services

HNTB's program and project managers promote communication among all involved entities to fully eliminate and minimize the number of possible conflicts. By developing trust and an understanding of all project concerns for each specific assignment, the team can appropriately prepare for managing any such conflicts that may arise. As part of our approach, our staff will initiate early on key schedule-sensitive activities, as may be appropriate. These activities, in particular, will be monitored on

a proactive critical path basis and met head-on with an aggressive evaluation of potential approaches during stakeholder meetings. Successful resolution of the issues will help to promote the timely completion of each particular task or project.

QUALITY

HNTB will provide quality control and individual task leadership throughout the program. We will develop a Quality Control/Quality Assurance Program, which addresses the particular character of this call-in agreement prior to starting work. As previously stated, Joe Englot will serve as QA/QC manager throughout the term of the agreement. Joe has a vast amount of experience in the industry to satisfactorily review, monitor and deliver the level of service mandated by each individual task order performed by HNTB technical staff. He will provide regular insight into the service agreement as the senior technical advisor and will also provide quality reviews to confirm that the progress of the work is consistent with the requirements of each task scope, objective and any associated deliverables. He will formally review and sign off on the project specific quality plan and will periodically audit the project to make sure we are adhering to its doctrine and performing services to the satisfaction of the Authority.

QA/QC is fundamental within HNTB's culture and pervades our processes, including project and program management. QA/QC is not merely a book the company prepares to satisfy a need to establish policy - rather, it is the application of good practice at all levels and at all stages of a project. Joe will be committed to addressing quality at all levels of the project, including at the task management, delivery and director levels. He will be involved in HNTB's monthly internal project review process where all aspects of project and program management will be addressed. This review will include addressing project work plans, 4for4 client service, issues resolution and risk management.

HNTB is committed to the development of comprehensive solutions that represent the latest innovations while having basis in sound engineering, but above all, HNTB knows that the quality process is a cornerstone rather than an adjunct to project development. This commitment to quality is formalized in a written Project Management

Plan dedicated to providing superior levels of work which comprise the key ingredients in delivering quality during the development of project requirements and communication of those requirements to all involved.

Within our quality control/quality assurance program, specific quality control procedures have been developed that define the identification and implementation of quality control measures to carefully plan, check and review all work. Our subconsultants will similarly be expected to adhere to this QA/QC program and coordinate with our QA/QC team to review work activities and undertake periodic audits to further examine records and verify that proper procedures are followed.

Summary

HNTB's combination of key technical and support staff, subject matter expertise, and dedicated focus on delivery will provide the Authority with the comfort that their program will be in good hands. We will provide the right staff at the right time in response to your anticipated needs, to be responsive in maintaining a sense of urgency to all of your requests, as well as to communicate at the highest degree to fully understand the vision and goals for the program and for each individual task order. The HNTB leadership is fully committed to supporting the Authority with a continuous focus on 4for4 performance on this vital program.

F. SALARY AND MULTIPLIERS

SALARY

The following pages detail HNTB's salary schedule that identifies key personnel, their job classifications and rates. To demonstrate HNTB's breadth of staff, we have also included a list of our personnel in the New York, New Jersey and Pennsylvania offices. Please note that these rates are subject to annual increases in July of each year, in line with HNTB's ethos of competitive compensation in order to attract and retain quality talent.

The increases will adhere to all approved guidelines of the Authority. In accordance with applicable regulatory and governing agencies (i.e. FLSA), employees categorized as non-exempt cannot voluntarily work overtime without compensation and will be compensated 1 1/2 times their hourly rate for hours worked in excess of 40 per week. Employees categorized as exempt may receive additional compensation in the form of straight time for hours worked in excess of 40 per week. HNTB does not have premium for union differentials.

Halcrow's salary information is located on page F.5.

F. SALARY AND MULTIPLIERS

HNTB

Name	Title	HNTB Title	Section	Rate
Thomas Potts, PE	Principal-in-Charge	Office Leader II	Bridges & Tunnels	$250.00 (billing rate)
Phillip Collin, PE	Project Director	Project Director	Administrative Services	$108.72
Joe Englot, PE	QA/QC Manager	Department Manager - Engineering	Bridges & Tunnels	$91.04
PROGRAM MANAGERS				
Matt Dominy, PE	Program Manager	National Practice Consultant	Administrative Services	$98.16
David Downs, PE	Program Manager	National Practice Leader	Administrative Services	$129.44
Jonathan Pope, PE	Program Manager	Sr Project Manager - Engineering	Administrative Services	$96.16
Sharif Abou-Sabh, PE	Program Manager	Sr Project Director	Rail	$161.28
Bill Rutherford, PE	Program Manager	Sr Project Manager - Engineering	Bridges & Tunnels	$106.40
Sam Mody, PE	Program Manager	Office Leader I	Administrative Services	$109.28
PROJECT MANAGERS				
Andy Chiurazzi, PE	Aviation PM	Sr Project Manager - Engineering	Aviation	$81.76
Nicholas Salerno, PE	Aviation PM	Sr Project Manager - Engineering	Aviation	$91.68
Terry Kiter, PE	Aviation PM	Department Manager - Engineering	Aviation	$67.20
Will Flores	PATH PM	Department Manager - Engineering	Rail	$63.84
Stan Wiecek	PATH PM	Sr Project Manager - Engineering	Rail	$62.64
Benjamin Hovey, PE	PATH PM	Engineer III	Rail	$43.36
Nick Tassoulas	World Trade Center PM	Department Manager - CS	Construction Services	$89.20
Hugh Caspe, PE	World Trade Center PM	National Practice Consultant	Bridges & Tunnels	$110.00
Anthony Piechnik, PE	Tunnels Bridges & Terminals PM	Project Manager - Engineering	Bridges & Tunnels	$67.92
Seth Medwick, PE	Tunnels Bridges & Terminals PM	Department Manager - Engineering	Bridges & Tunnels	$68.08

Bold denotes resume included.

F. SALARY AND MULTIPLIERS

Name	Title	HNTB Title	Section	Rate
Steven Richards, PE	Tunnels Bridges & Terminals PM	Project Engineer/ Squad Leader	Bridges & Tunnels	$47.36
Belinda Rivera, PE	PM	Project Engineer/ Squad Leader	Aviation	$52.00
Matthew Riegel, PE	PM	Sr Project Manager - Engineering	Bridges & Tunnels	$72.24
Kanagarajah Ravishankar, PE	PM	Project Engineer/ Squad Leader	Bridges & Tunnels	$51.84
Greg Baron, PE	PM	Assistant Department Manager	Mechanical/ Electrical	$65.68
James Forte-McRobbie, PE	PM	Sr Project Engineer/ Sr Squad Leader	Mechanical/ Electrical	$59.20
Arie Naaktgeboren	PM	Sr Technical Advisor	Transportation	$59.60
Franco Stanisci	PM	Project Engineer/ Squad Leader	Mechanical/ Electrical	$56.56
ENGINEERS				
Mark Frazer	Engineer	Inspector II	Rail	$30.64
Yuen-Ping Chia, PE	Engineer	Engineer II	Aviation	$40.40
James Harris	Engineer	Sr Inspector	Rail	$37.04
Robert Dippy	Engineer	Project Analyst	Rail	$26.08
Theordora Kamberogiannis	Engineer	Technician II	Rail	$30.40
Brian Buckman, PE	Engineer	Engineer III	Bridges & Tunnels	$44.24
JoAnna Billings	Engineer	Engineer II	Bridges & Tunnels	$33.60
Justin Steinhouse	Engineer	Engineer II	Bridges & Tunnels	$33.52
Brian Felber	Engineer	Engineer I	Bridges & Tunnels	$35.68
Joseph Juzwin	Engineer	Engineer	Bridges & Tunnels	$27.52
Sheetal Choudhary	Engineer	Engineer	Bridges & Tunnels	$29.52
Martin Crosley	Engineer	Sr Technician	Mechanical/ Electrical	$40.08
Agana Gandhi	Engineer	Engineer	Mechanical/ Electrical	$30.32
Edward M. Grill	Engineer	Engineer I	Mechanical/ Electrical	$38.96
Chincy Mathew	Engineer	Engineer	Mechanical/ Electrical	$29.76
Bik Yin Ng, PE	Engineer	Engineer III	Transportation	$39.84
Sue Ong	Engineer	Technician III	Transportation	$36.24
Wanda Chang	Engineer	Engineer	Transportation	$27.68

Bold denotes resume included.

F. SALARY AND MULTIPLIERS

Name	Title	HNTB Title	Section	Rate
Judith Fleischer	Engineer	Project Analyst	Transportation	$34.00
Greg DeMarinis	Engineer	Engineer	Mechanical/ Electrical	$27.52
Joe Wasielewski, PE	Engineer	Project Engineer/ Squad Leader	Mechanical/ Electrical	$45.84
Patricia Hickey	Engineer	Engineer I	Mechanical/ Electrical	$29.60
OTHER TECHNICAL AND ADMINISTRATIVE STAFF				
Kevin Williams, AICP	Public Outreach Coordinator	Project Director	Urban Planning	$80.32
Tony Lagala, PE	Constructibility Engineer	Sr Project Manager - Engineering	Construction Services	$85.44
John Brizzell, PE	Construction Engineer	Construction Manager II	Construction Services	$62.08
Shereaf Youssef	Cost Control Manager	Director of Claims and Scheduling	Administrative Services	$86.72
Sam Ilechukwu	Scheduler	Project Manager - Claims & Scheduling	Construction Services	$69.76
Angri Srinivas, PMP	Estimater	Project Manager - Claims & Scheduling	Construction Services	$69.44
Mike Debiak, EVP, PMI-RMP	Risk Manager	Director of Claims and Scheduling	Technology	$86.72
Glenn Ridsdale, PE	Standards & Procedures Specialist	Division Quality Specialist	Administrative Services	$72.48
Ho Sik Nam	Graphic Designer	Graphic Designer	Bridges & Tunnels	$25.12
Eric Tobias	CAD Technician	Technician II	Bridges & Tunnels	$27.36
Paul Ella	CAD Technician	Technician II	Bridges & Tunnels	$25.52
Joe Crouch	Project Administrator	Project Administrator I	Administrative Services	$31.12
Carlos Rojas	Project Administrator	Project Analyst	Administrative Services	$40.56

Bold denotes resume included.

F. SALARY AND MULTIPLIERS

HALCROW, INC.

Halcrow's range of rates by disciples is in the chart below:

Classification	Name	Rate Range
Senior Vice President	Jonathan Goldstick, PE Bill Paparis, PE	$105 - $155
Vice President	Allan Waller, PE Pierre Desautels, PEng	$82 - $107
Senior Principal Engineer	Jack Luo, PE, PhD	$69 - $87

MULTIPLIERS

HNTB

Detailed below is HNTB's multiplier for staff work at our offices under the 2011, 2012, 2013 and 2014 Services Project Management Call-In. A breakdown of our FAR overhead is given on page F.7.

The multiplier for staff when assigned to work at HNTB's office is proposed as follows:

Labor	1.000
Proposed Contract Overhead	1.479
Sub-Total	2.479
Profit (8%)	0.198
Total	2.67

Halcrow, Inc.

Halcrow will use a multiplier of 2.95.

$$\text{General \& Administrative Overhead Rate} = \frac{\text{Allowable Indirect Costs}}{\text{Direct Labor}} = \frac{\$37,445,944}{\$18,638,586} = 200.9055\%$$

HNTB Corporation

Schedule of Design and Project Office Overhead Rates Excluding Overtime Premium Calculated in Accordance With the Federal Acquisition Regulation Part 31

Year Ended December 31, 2009

	FAR Cost Pool	FAR Unallowable	FAR Ref.	FAR Allowable	Project Office	Design Office
Job costs – payroll	$ 201,656,899	$ –		$ 201,656,899	$ 14,624,207	$ 187,032,692
Premium portion of overtime	666,112	–		666,112	17,615	648,497
Direct straight-time payroll	$ 200,990,787	$ –		$ 200,990,787	$ 14,606,592	$ 186,384,195
Salary related						
Paid leave	$ 38,152,662	$ –		$ 38,152,662	$ 2,766,839	$ 35,385,823
Employee's insurance	25,689,665	–		25,689,665	1,863,021	23,826,644
Payroll taxes	22,974,480	–		22,974,480	1,666,115	21,308,365
Miscellaneous employee benefits	8,334,975	740,868	1	7,594,107	550,740	7,043,367
Total salary related	95,151,782	740,868		94,410,914	6,846,715	87,564,199
% of direct straight-time payroll					46.87%	46.98%
General overhead costs						
Indirect salaries	69,164,492	4,800,039	2	64,364,453	4,667,727	59,696,726
Rent and maintenance	29,834,159	–		29,834,159	330,392	29,503,767
Insurance	12,927,145	122,820	3	12,804,325	928,572	11,875,753
Taxes	2,513,454	–		2,513,454	152,334	2,361,120
General	56,654,132	6,369,215	4	50,284,917	2,485,656	47,799,261
Bid and proposal/marketing	41,141,662	3,810,734	5	37,330,928	2,707,248	34,623,680
Firm support services	2,540,312	124,744	6	2,415,568	175,178	2,240,390
Other expense (income)	2,204,277	2,214,500	7	(10,223)	(740)	(9,483)
Total general overhead costs	216,979,633	17,442,052		199,537,581	11,446,367	188,091,214
% of direct straight-time payroll					78.36%	100.92%
Total overhead cost pool	$ 312,131,415	$ 18,182,920		$ 293,948,495	$ 18,293,082	$ 275,655,413
% of direct straight-time payroll					125.23%	147.90%
Facilities capital cost of money					$ 27,333	$ 624,997
% of direct straight-time payroll					0.19%	0.34%

See accompanying notes.

This document contains information HNTB Corporation considers to be confidential and privileged and not subject to disclosure under the Freedom of Information Act and which HNTB Corporation considers as information that cannot be disclosed under the Trade Secret Act.

G. M/WBE PARTICIPATION

MBE AND WBE PARTICIPATION

Due to the nature of call-in services, the scope and magnitude of work may vary widely from task to task. It is for that reason that HNTB has not identified specific MBE or WBE firms as part of this proposal. However, in response to a specific task assignment, HNTB will propose, for Authority approval, qualified and certified MBE and/or WBE professional service team members with whom the Authority is more than familiar. HNTB will take into account the nature of the assignment and will identify a meaningful supporting role for any such MBE or WBE team partner.

HNTB is aware of the Authority goals of 12-percent MBE, and 5-percent WBE participation on technical service projects and will employ a "good faith effort" to meet those goals when a specific task order request has been identified.

H. FIRM AFFILIATES

A listing of all HNTB affiliates is shown below:

- 1914 Holding Company [redacted]. This entity is the ultimate parent of the HNTB Companies. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Holdings Ltd [redacted] . This entity is 100% owned by 1914 Holding Company and owns 100% of the following 3 subsidiaries. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Corporation [redacted]). This entity is 100% owned by HNTB Holdings Ltd. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB International Corporation [redacted] This entity is 100% owned by HNTB Holdings Ltd. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Design/Build Inc ([redacted]. This entity is 100% owned by HNTB Holdings Ltd. Address: 715 Kirk Drive, Kansas City, MO 64105
- HNTB Corporation (a Massachusetts Corporation) [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Pennsylvania, Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Alabama Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Arkansas, Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- Howard Needles Tammen & Bergendoff California Architects PC ([redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Connecticut Architecture, PC [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB District of Columbia Architecture, PC ([redacted] . Address: PO Box 412197, Kansas City, MO 64141
- HNTB District of Columbia, PC [redacted] . Address: PO Box 412197, Kansas City, MO 64141
- HNTB Georgia, Inc [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Idaho, PA [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Illinois, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Indiana, Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Iowa, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Louisiana Architecture, Inc. ([redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Maine, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Maryland, Inc. [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Michigan, Inc. ([redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Mississippi Architecture, PC [redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Montana, Inc. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Nevada, Inc. [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB New Jersey Architecture, Inc. (43-1628399). Address: PO Box 412197, Kansas City, MO 64141
- HNTB New York Engineering & Architecture, PC. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB New York Architecture, PC [redacted] . Address: PO Box 412197, Kansas City, MO 64141
- HNTB North Carolina, PC [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB, PC [redacted]. Address: PO Box 412197, Kansas City, MO 64141
- HNTB Ohio, Inc. ([redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Oklahoma, PC. ([redacted] . Address: PO Box 412197, Kansas City, MO 64141
- HNTB Oregon Architecture, PC. [redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Rhode Island, Inc. ([redacted]). Address: PO Box 412197, Kansas City, MO 64141
- HNTB Virginia Architecture, Inc. ([redacted] Address: PO Box 412197, Kansas City, MO 64141
- HNTB Vermont Engineering, PC. [redacted]. Address: PO Box 412197, Kansas City, MO 64141

I. CONFLICT OF INTEREST

HNTB certifies to the best of our knowledge and belief that no affiliation exists that presents a possible conflict of interest for the Authority's Project Management Services Contract (Proposal No. 22388).

J. TERMS AND CONDITIONS

As requested in Section J of the RFP, contract exceptions are provided in a separate letter included with our response to this RFP.

Jacobs Civil Consultants Inc.
5 Penn Plaza, 18th Floor
New York, NY 10001-1810
212.944.2000 Fax: 212.302.4645

October 21, 2010

Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010

Attention: RFP Custodian

RE: Performance of Expert Project Management Services as Requested on a "Call-in" Basis during 2011, 2012, 2013, and 2014, RFP #22388

Dear Sir or Madam:

Jacobs Civil Consultants Inc. is pleased to submit our proposal for the above-referenced solicitation.

In accordance with the requirements of the Draft Agreement included in RFP #22388 dated September 30, 2010, Section 24, Jacobs is unable to certify in the affirmative to Section 24 of the same for the reasons as stated in the attached statement.

Very truly yours,

Michael P. Cavanaugh, PE
Chief Executive Officer

Attachment

VI. Additional Information, RFP dated September 30, 2010, Fourth Page

In accordance with the requirements of the draft agreement included in RFP No. 22388 for the Performance of Expert Professional Project Management Services as Requested on a "Call-in" Basis during 2011, 2012, 2013, and 2014, Jacobs is unable to certify in the affirmative to Section 24, paragraphs of the same for the reasons as stated below:

> In 2003, due to misconduct by two former employees of an affiliate of Jacobs Civil Consultants Inc., the Jacobs organization was informed that the affiliate company was the subject of a federal investigation. More recently, the United States Department of Justice has confirmed that neither Jacobs Engineering Group Inc. nor the former affiliate is a subject of such an investigation.

JACOBS

Jacobs Civil Consultants Inc.
5 Penn Plaza, 18th Floor
New York, NY 10001
Tel: 212.944.2000 Fax 212.302.4645

October 21, 2010

Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010

Attention: RFP Custodian

Re: Request for Proposals for the Performance of Expert Professional Project Management Services as Requested on a "Call-in" Basis During 2011, 2012, 2013, and 2014 (RFP #22388)

Dear Sir or Madam:

As a provider of consulting services to the Port Authority of New York and New Jersey dating back over two decades, Jacobs Civil Consultants Inc. (Jacobs) submits this proposal with a deep sense of commitment.

Our years of experience in providing call-in services to the Port Authority amount to significant knowledge of the Port Authority's facilities and a great understanding of the its programs and objectives. We are known to your staff across several departments and, most importantly, are well-versed in your standards and procedures. In short, we are dedicated and prepared to provide you with the level of excellence you have come to expect from our staff of professionals.

We have committed a substantial staff with the requisite technical knowledge and experience who are available to respond the Port Authority's needs. We look forward to the opportunity to provide you with the expertise necessary to successfully complete your call-in program for project/program management services.

Very truly yours,

Michael P. Cavanaugh, PE
Chief Executive Officer

THE PORT AUTHORITY OF NY & NJ

One Madison Avenue
New York, NY 10010

October 13, 2010

SUBJECT: REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014 (RFP #22388 – ADDENDUM #1)

Dear Sir or Madam:

The Port Authority of New York & New Jersey hereby amends the subject Request for Proposal (RFP) letter, dated September 30, 2010, as follows:

The following questions were received from an RFP recipient(s). The Authority provided the corresponding answers:

1. Please clarify what is required for III.C.3 "table that provides a summary of project experience for key personnel on this project with respect to number of projects and project costs."

It is anticipated that the table shall provide a summary of the information presented in the resumes including project costs.

2. In light of the fact that this is an on-call proposal to provide Project Management Services, is it necessary to have a license to practice Architecture or Engineering services in the State of New York and New Jersey?

Yes.

The due date for receipt of proposals remains 2:00 p.m. on October 21, 2010.

If you have any questions, please contact Ms. Tracy Tiernan at ttiernan@panynj.gov.

Sincerely yours,

Tim Volonakis
Manager
Professional, Technical & Advisory Services Division
Procurement Department

Acknolwedgement of Addendum No. 1

Michael P. Cavanaugh, PE
CEO

ATTACHMENT B

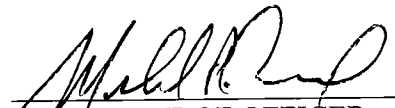
PERFORMANCE OF EXPERT PROFESSIONAL CIVIL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011 – RFP #22188

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority of New York and New Jersey's (Port Authority) receipt or discussion of any information (including information contained in any proposal, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) is not to impose any obligation whatsoever on the Port Authority or to entitle us to any compensation therefore (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with, or after this letter, either orally or in writing, is not given in confidence and may be used or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this agreement, whether made as part of or in connection with any information received from us, or made at any other time in any fashion, shall be void and of no effect. This letter is not intended, however, to grant to the Port Authority rights to use any matter which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Port Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Jacobs Civil Consultants Inc.
NAME OF COMPANY



SIGNATURE OF OFFICER

Chief Executive Officer
TITLE

September 30, 2010
DATE

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014 (RFP #22388)

1. Company Name (print or type):

   _____

2. Business Address (to receive mail for this RFP):

   _____

   _____

3. Business Telephone Number: _____
4. Business Fax Number: _____
5. Firm website: _____
6. Federal Employer Identification Number (EIN): _[redacted]_____
7. Date (MM/DD/YYYY) Firm was Established: _____/_____/_____
8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   _____

   _____

9. Officer or Principal of Firm and Title:

   _____

10. Name, telephone number, and email address of contact for questions:

    _____

    _____

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☐ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

List of Personnel to be assigned to this project

Project Director	Stanley Rosenblum	
QA/QC	Michael Kennedy, PE	
Program Manager	Michael Murno, PE, PP	
Aviation Facilities	*William DeGraaff, PE, Project Manager*	
	Chris Bowker, PE	David Chamberlain, PE
	Stephen Flecchia, PE	Richard Lasdin, PE
Rail Facilities	*Leo McGlynn, PE, Project Manager*	
	Stephen Bond, PE	Michael Moskowitz, PE
	James S. Craig	William Madden, PE
	Lew Morgan, PE	Michael Kennedy, PE
Tunnels	*Igor Maevski, PhD, PE, Project Manager*	
	Nick Chen, PE	Gregory Zdenek
	Kai Kang, PhD, PE	Robert Harvey, PE
Bridges	*Marcos Loizias, PE, Project Manager*	
	Avanti Shroff, PE	Robert LaMagna, PE
	Lynne Baumann, PE	Todd Schickel, PE
	Kimberly Murray	Scott Jarmel, PE
	Wanda Lam, PE	
Terminals	*Richard Wenger, PE, Project Manager*	
	Vincent Cassano, PE	David Fox
	James Coddington, PE	Ronald Zwerdling, CCM
Marine Facilities	*Thomas Schanze, PE, Project Manager*	
	Christopher Ahern, EI	John Larson, PE
	Kamran Marashi, PE	Ron Zimmer, PE
WTC Facilities	*Michael Cavanaugh, PE, Project Manager*	
	Lauren Brennan, PE	Andrew Holland, PE
	Jessica Forse, PE	
Environmental	Toby Kizner, AICP, PP	
Cost Estimating and Scheduling	JCMS	
Business Analysis	Stanley Grill	
MBE/WBE Evaluation	Stanley Grill	
Constructability	Randall Sprague, PE	
Security	Robert Craig, CPP	
Team Building	Richard LaRuffa, PE	
Construction Inspection	James McCarty, PE	
Planning & Traffic Engineering	John Pavlovich, PE	
RFP Preparation	Stanley Grill	
Risk Management	Richard LaRuffa, PE	
Sustainability	Stephen Lathrop, PE	

Profiles of Program/Project Managers

Program Manager – Michael Murno, PE, PP. All work will be managed and coordinated by Michael Murno, PE, PP; our designated Project Manager. Mr. Murno has over 40 years of experience in transportation infrastructure. Currently the infrastructure manager for the World Trade Center

Streets Project, Mr. Murno has managed numerous planning and design projects, and has monitored the activities of multi-disciplined professional personnel in the preparation of contract documents, feasibility studies, alternative analyses, and site investigations for public and private sectors. Most recently, Mike managed the MOT plans for the Alexander Hamilton Bridge, and Phases I-V for the preliminary design and EIS for Route 347; a multi disciplined 15 mile highway corridor in Suffolk County, N.Y. The project included leading and coordinating the work of 5 sub-consultants. Working under Mr. Moron's leadership will be his Principal Design Discipline Engineers and the designated sub consultants. The benefit of this approach is that each Principal Engineer will be focused on their design discipline and have the appropriate staff assigned to help maximize innovative but practical solutions. Utilizing our collaborative Team approach and coordination through internal meetings, the Team will have the benefit of sharing common information and working toward a common set of project goals and objectives.

As Project Manager, Mr. Murno will be our point of contact at all levels and direct the Team's efforts to respond to the technical, schedule, and fiscal requirements of the project. Mike will provide overall management of the project including day-to-day interface/liaison with the Authority and the entire team to bring the project to fruition. He will work closely with his designated Principal Engineers leading each Design Team – Structural, Civil, Traffic, and MEP to:

- Develop the design schedule for the project
- Monitor the development of designs to ensure the timely application of resources to the project
- Achieve maximum efficiency in meeting or bettering the schedule milestones

Working in close concert with the Authority, Mike will coordinate and monitor with the all discipline leaders in the development of bridge concepts to assure the designs are optimal and reflect the established goals/objectives /standards for the project. He will ensure that all members of the Team have a clear understanding of their project assignments. Project control, cost control, scheduling, reporting, MBE/WBE participation, and documentation will fall under Mike's purview. In addition, Mike will provide the project(s) oversight to ensure the full performance of the Team in all areas of the project(s). He will oversee all of the efforts and contractual obligations of the Team and provide the resources, support, and commitment needed.

Aviation Facilities Project Manager – William DeGraaff, PE. Bill DeGraaff's background includes an impressive 34 years of experience in airport planning and engineering, the majority of which has been with the FAA Airports Division. Mr. DeGraaff has held numerous managerial positions while in the Airports Division, including Deputy Division Manager, Acting Division Manager, Safety and Standards Branch Manager and Programming and Planning Branch Manager. In addition, he was the Regional Runway Safety Program Manager for 5 years. Bill is very knowledgeable in airport design and construction standards as well as airport safety issues and with the many FAA Advisory Circulars that cover these topics. His contribution to airport planning and engineering projects is greatly enhanced, as a result of his thorough understanding of FAA Standards and protocols. Bill is considered an expert in airport paving and airport safety. Bill has made numerous presentations on these topics at conferences throughout the country.

In his former career with FAA, Bill has worked closely with the Port Authority staff on many issues. These topics included airport design and construction standards, requests for modifications to standards, compliance with Part-139, as well as grant funding and runway safety issues.

Positions Bill held at the FAA are summarized below:

- Regional Runway Safety Program Manager
- Deputy Manager, Airports Division
- Acting Manager, Airports Division
- Manager, Planning & Programming Branch, Airports Division
- Manager, Safety and Standards Branch, Airports Division
- Supervisor, Standards Section, Airports Division
- Paving Engineer, Standards Section, Airport Division
- Supervisory Civil Engineer, Construction Branch, Airways Facilities Division
- Civil Engineer, Construction Branch, Airways Facilities Division

Rail Facilities Project Manage – J. Leo McGlynn, PE. Leo McGlynn is a results-oriented, responsible, engineering professional with extensive experience in railroad engineering, construction management, and design. He is a strong leader with excellent organization, financial management, and team building skills. Leo has managed many important and high profile projects among which are the Conrail, Bergen Tunnel Enlargement, a private/public partnership (Conrail/NJDOT, Funding Sponsor FHWA) including environmental permitting (CED) and SHPO. As project manager for this $25M National Docks Clearance Project, Leo managed the enlargement of the Bergen and Waldo Tunnels, which included Design Construction Management for the vertical clearance of two tunnels (Bergen Tunnel and Waldo Tunnel) and the clearance under the NJ TRANSIT bridge.

Mr. McGlynn has over 32 years of experience with Conrail, where he served in various capacities including Director of Design and Construction. As such, he managed a team that was responsible for the design and construction of all capital and state participation projects and construction agreement negotiation with government and transit agencies. Responsibilities included safety, customer satisfaction, employee development, on-time performance, budget, design, estimating, and construction integration with rail operations.

Under his direction his team completed five rail infrastructure projects worth $168,000,000 in construction cost.

- Northern Branch Double Track, 3.8 miles of new track and 2 new remote control interlockings.
- North Jersey Infrastructure Project, 10 miles of double track and 8.5 miles of secondary and yard tracks and 8 new remote controlled interlockings
- Reviewed and approved the track design for 75,000 feet of new on-dock loading and support tracks
- Conrail-NJDOT Joint Participation National Docks clearance and CP Port Reading Junction upgrade and expansion
- Managed the design and construction of approved projects including the International Paper industrial track upgrade in Florence, NJ and the new interchange track at Winslow Junction.

With his track record and dedicated work ethic, we are confident that Mr. McGlynn can get results consistent with the Authority's goals and objectives and that he is well suited to any Rail Facilities project.

Tunnel Facilities Mechanical/Electrical Project Manager – Igor Maevski, Ph.D., PE. Igor Maevski, a licensed Professional Engineer in New York and New Jersey, has over 26 years of experience in diverse mechanical system design, feasibility studies, and alternatives development and analysis. He is nationally recognized as a specialist and authority in defined and applied solutions, including technical guidance for transportation and facilities ventilation design, and has authored numerous articles on tunnel ventilation. He is experienced in the research and design of heating/ventilation and air conditioning systems for roadway, railway, and subway tunnels, stations, and industrial plants. Igor was also the Senior Mechanical Engineer for the Authority's Holland Tunnel Ventilation System Rehabilitation and Project Manager for Authority's Mechanical Engineering Services – Design of Fire/Smoke Management and Tunnel Ventilation Systems Task 1 Hudson Mews Overbuild Project for the 2007-2009 Call In.

As Project Manager and Team Leader for the MTA Triborough Bridges and Tunnels, Brooklyn Battery Tunnel Design and Construction Support Services for Project BB-45 Igor was responsible supply fan replacement, switchgear replacement and Manhattan underground Exhaust Building (MUEB) fan Upgrade and repairs.

Igor also served as Team Leader for the LBJ Tunnels Procurement Engineering Project in Dallas Texas, responsible for Road Tunnel Ventilation. He also served as Team Leader for the SR99 Bored Tunnel Architectural Services, Alaskan Way Viaduct Project for the Washington DOT responsible for tunnel ventilation and fire life safety. As Senior Mechanical Engineer for the Massachusetts Highway Department, I-93 Central Artery/Tunnel Mechanical and Electrical Systems Contract D020B in Boston, Igor was responsible for the tunnel ventilation systems including the performance of a Computational Fluid Dynamics (CFD) analysis of air flow distribution.

Bridge Facilities Project Manager – Marcos Loizias, PE. Marcos Loizias has over 25 years of professional experience, during which time he has been in charge of the planning, structural design and plan production, construction and/or rehabilitation of numerous steel and concrete long-span bridges (cable-stayed, suspension, arch, truss, girder, segmental), movable bridges, interchanges and major viaducts throughout the U. S. He is experienced in both conventional design/bid/build and design/build projects.

Marcos currently is Jacobs national bridge design practice lead and is recognized nationally as a leader in bridge design solutions.

Terminal Facilities Project Manager – Rick Wenger, PE. Rick Wenger is a licensed professional engineer with over 19 years of construction management/ inspection experience. Mr. Wenger is an experienced Resident Engineer with attentiveness to details and options. Past and present experience has primarily focused on constructing and renovating NY City and NY State owned vehicular repair, parking, and administrative facilities with diversified and specialized equipment including fuel storage and dispensing, pneumatically and electrically operated vehicle repair, lifting and frame straightening, and machine/ blacksmith shop. Pre-construction duties have entailed scope development through the understanding of user needs, preliminary and final design documents constructability reviews, preparation of pre-bid Addendums, conducting pre-bid walkthroughs, and bid evaluation/ award.

Marine Facilities Project Manager Tom Schanze, PE. Tom Schanze has over 27 years of experience that spans engineering project management and corporate, operations and financial management. As engineering project manager, he has worked on multi-million dollar port and marine facilities located both in this country and abroad. Mr. Schanze has also served as project manager and assistant project director involved in environmental consulting services, and a client manager for the St. Johns River Water Management District.

Tom has served as Principal-in-Charge of several major port projects around the world bringing effective project management resulting in successful project completion of major projects. Hs solutions based approach results in cost and time savings for the Port owner.

WTC Facilities Project Manager – Michael Cavanaugh, PE. Mr. Cavanaugh has extensive project management experience on a wide variety of assignments involving the rehabilitation of highways, streets and their related infrastructure in the New York metropolitan area. Mr. Cavanaugh has been involved in the design and construction services for over 30 miles of streets and roadways for agencies such as NYS Department of Transportation, NYC Department of Transportation and the NYC Economic Development Corporation. The projects have encompassed topographic surveys/ mapping, subsurface investigation and pavement design, design reports and the preparation of final plans, specifications and estimates for street reconstruction work including drainage, traffic signals and street lighting improvements. His experience encompasses extensive underground utility work that includes utility surveys, subsurface investigations and test pitting and the design of new and relocated utility system.

Currently, Mike is Project Manager for the Port Authority of NY & NJ, World Trade Center Streets, Utilities, and Related Infrastructure Designs. Mike leads a joint venture team on this $200M project providing design services for the creation of Greenwich Street between Vesey and Liberty Streets, and Fulton Street between Route 9A (West Street) and Church Street, including the installation of street utilities (water, storm and sanitary sewers, gas, and steam mains) to service the World Trade Center Site. As such, Mike is eminently qualified to serve as WTC facilities project manager. He is abreast of the WTC programs and is familiar with WTC stakeholder requirements.

> ***Jacobs recognizes the critical role that Mike has with the Design Services for Street, Utilities and Related Infrastructure project. Therefore Mike will be able to support this project only after concluding his current responsibilities for the Port Authority.***

Mike has also served as principal in charge on a previous Port Authority of NY & NJ, Civil Engineering Services on a "Call-In" Basis, which included over 33 assignments ranging in fee from $25,000 to approximately $270,000. The project design work included roadway reconstruction, airside site work, storm drainage rehabilitation, utility relocation and pavement repair.

Subconsultants

JCMS (MBE)

JCMS, Inc. a Certified Minority Owned Business Enterprise, is a respected professional consulting firm engaged in Cost Estimating, CPM scheduling and Web Based Document Control. Founded in 1985, JCMS is headquartered in Mercerville, N.J. with branch offices in New York, NY, Newark, NJ and Washington D.C. JCMS has provided scheduling, and definitive cost estimates on projects ranging in

cost from $1M to over $1B for various agencies in the Northeast including PANYNJ, SEPTA, NYCT, MNR, AMTRAK, LIRR, NJ Transit, DRPA, MBTA. JCMS has well qualified and experienced professionals in the field of project management (PM), construction management (CM) and construction claims. We provide PM/CM consulting services in the United States and in Canada.

KS Engineers, P.C. (MBE)

KS Engineers is a Certified Minority Owned Business Enterprise, has earned a reputation for being a top-ranked, highly regarded, client responsive professional engineering, survey, and construction management firm. Founded in 1991, the corporate headquarters is located in Renaissance City, Newark, New Jersey. The firm has regional offices in New York City, Philadelphia, PA, as well as Southern New Jersey. KSE serves clients in both public and private sectors. Their comprehensive engineering and surveying services include civil, structural, geotechnical, traffic and transportation engineering, complete survey and right-of-way mapping, resident engineering, construction inspection and construction management, site safety, and structural integrity/condition inspections. KSE structural engineers, combined with their traffic and survey staff, provide extensive capabilities in the rehabilitation of existing structures and in the aesthetic design and construction of new and replacement steel, concrete, and timber structures including pre-stressed, post-tensioned and curved girder bridges. KSE's recent experience with the Port Authority includes numerous assignments as a Prime Consultant.

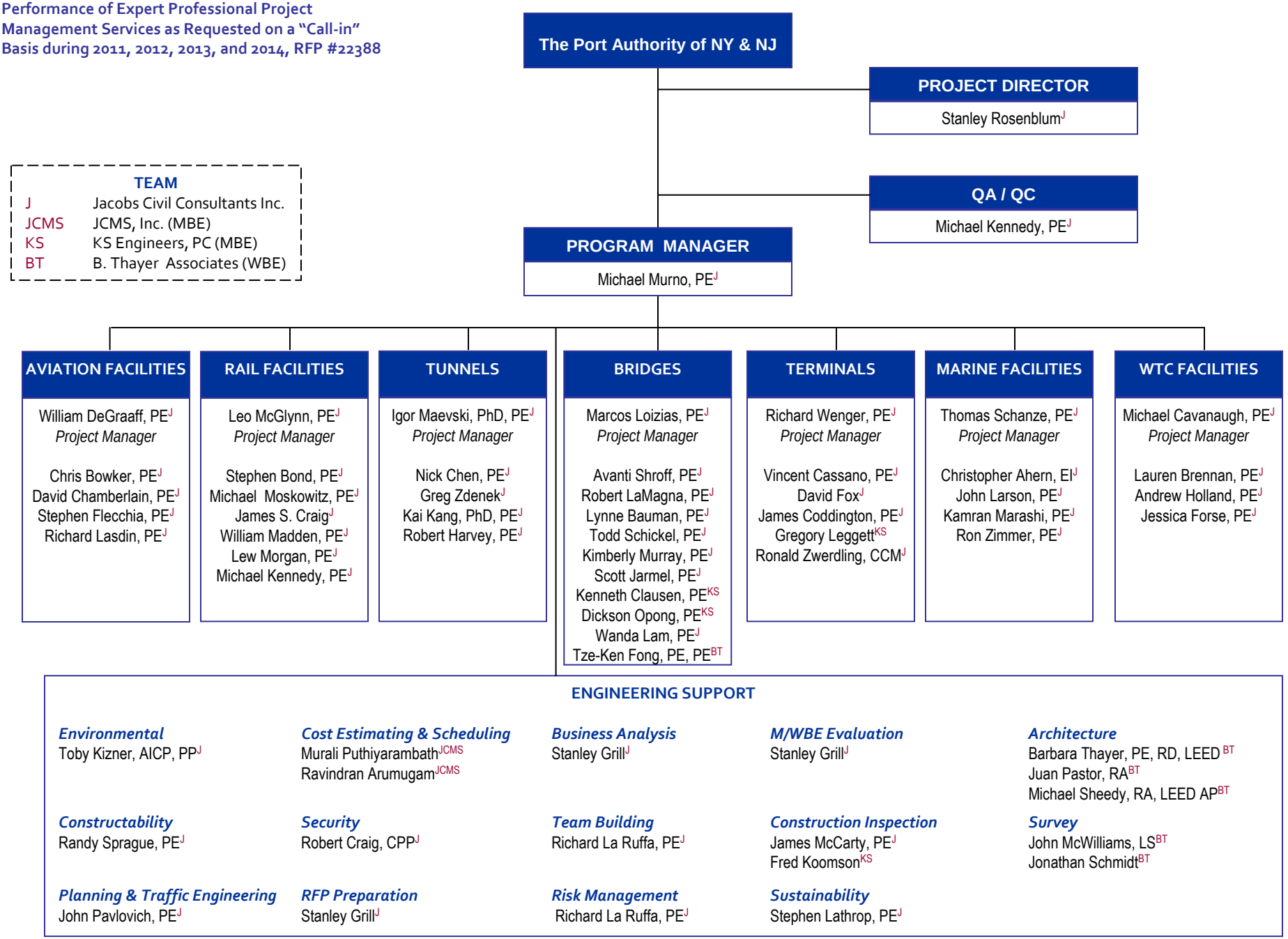
Barbara Thayer Associates (WBE)

Established in 1990 by Barbara Thayer PE, RA, LEED AP, B Thayer Associates (BTA) is a well respected architectural and engineering firm, specializing in bridge design and headquartered in Woodbury Long Island. BTA is also a member of the United States Green Building Council (USGBC), and sustainable design is a vital piece of each of the firm's projects. BTA is a Port Authority Certified Woman Owned Business Enterprise (WBE) and will fulfill the WBE requirement for this project. Current and recent projects include involvement with the No. 7 Subway Extension, East Side Access Tunnel Project, and the Access to Regions Core Tunnel Project. Additionally, BTA is currently working on the seismic upgrade of the Macombs Dam Bridge and the upgrade of the Queens Approach to the Whitestone Bridge, the pedestrian access ramps for the Willis Avenue Bridge, and the renovation and upgrade of the Queens Abutment of the Throgs Neck Bridge.

KEY PERSONNEL

Project Leadership	Total # of Projects	<$10M	$10M - $50M	$50M - $100M	>$100M	Project Mgmt	Conceptual Design	Prelim Design	Final Design	Contract Prep	Construction Completion
Name / Title											
Michael Murno - Project Manager	42	8	6	15	12		✓	✓	✓	✓	✓
Stanley Grill - RFP Prep/M/WBE Goals		>100,000	>50	>500	>50	✓			✓	✓	
Richard LaRuffa - Value Engineering	50	5	20	15	10	✓	✓	✓	✓		
Jim McCarty - Construction Inspection	17	7	6	2	3	✓	✓	✓	✓		✓
Aviation											
William DeGraaff	10	9		1		✓	✓	✓	✓	✓	✓
Chris Bowker	10	3	6	1		✓	✓	✓	✓	✓	✓
Tunnels											
Nick Chen	23		8	6	9	✓	✓	✓	✓	✓	✓
Igor Maevski	23	8	4	3	8	✓	✓	✓	✓	✓	✓
Robert Harvey	4	1	2	1		✓	✓	✓	✓	✓	✓
Greg Zdenek	5	2	2	1		✓	✓	✓	✓	✓	✓
Bridges											
Marcos Loizias	54	10	16	14	14	✓	✓	✓	✓	✓	✓
Leo McGlynn	10	9	1							✓	✓
Robert LaMagna	13	8	2	1	2	✓	✓	✓	✓	✓	✓
Terminals											
Rick Wenger	2		1		1	✓	✓	✓	✓	✓	✓
Rail											
Michael Kennedy	7	4	5	1	1	✓	✓	✓	✓	✓	✓
Leo McGlynn	184	173	7	4		✓	✓	✓	✓	✓	✓
William Madden	225	165	37	20	3	✓	✓	✓	✓	✓	✓
WTC											
Michael Cavanaugh	125	110	10	3	2	✓	✓	✓	✓	✓	✓
Jessica Forse	14	12	2			✓	✓	✓	✓	✓	✓
Marine											
Tom Schanze	8		2	2	4	✓	✓	✓	✓	✓	✓
Leo McGlynn	5	5								✓	✓
Other Services											
John Pavlovich - Planning & Traffic Eng						✓	✓			✓	
Toby Kizner - Environmental Planning	10	3	5	2		✓				✓	

Performance of Expert Professional Project Management Services as Requested on a "Call-in" Basis during 2011, 2012, 2013, and 2014, RFP #22388



JACOBS

Michael J. Murno, PE, PP
Program Manager

Education

- MS, Transportation Planning, 1973
- BS, Civil Engineering, 1969

Registration

- Professional Engineer:
  NY #[redacted]
  NJ #[redacted]
  VA #[redacted]
- Professional Planner:
  NJ #[redacted]

Employment History

1994-Present - Jacobs
1994-1992 - Envirodyne/ CTE
1982-1992 - Goodkind and O'Dea
1979-1982 - PRC Harris
1973-1979 - Parsons Brinckerhoff Quade
1971-1973 - Vollmer Assoc.
1969-1971 - Andrews and Clark

Mike Murno has extensive and diversified experience in all phases of highway and transportation engineering including the design of such transportation facilities as interchanges, multi-lane highways and expressways, railroads, mass transit, arterials, and access roads. He has managed numerous planning and design projects, and has monitored the activities of multi-disciplined professional personnel in the preparation of contract documents, feasibility studies, alternative analyses, and site investigations for public and private sectors.

Mr. Murno's project experience includes coordination and liaison with state and local agencies, subconsultants, community groups, and chambers of commerce. He has provided engineering services to the Departments of Transportation in New York, New Jersey, Virginia, and Connecticut; the Battery Park City Authority (BPCA); The Toll Road Corporation of Virginia (TRCV); The Triborough Bridge and Tunnel Authority (TBTA); The Port Authority of New York and New Jersey; and The New York State Thruway Authority (NYSTA).

Mr. Murno has been actively involved in public participation and involvement programs on large scale projects, including formal public information meetings, community board meetings, public hearings, and environmental impact statements.

Project Experience

Port Authority of New York & New Jersey, World Trade Center Streets, Utilities and Infrastructure, NY (2010). Serves as Infrastructure Project Manager on this project which consists of the creation of Greenwich Street between Vesey and Liberty Streets, and Fulton Street between Route 9A (West Street) and Church Street, including the installation of street utilities (water, storm and sanitary sewers, gas, and steam mains) to service the World Trade Center Site.

NYS Dept. of Transportation, Design Phases I-IV for Route 347; Northern State Parkway to Route 25A, Suffolk County, NY (2004-2007). Project Manager for the preliminary design (Phases I-IV) for 15 miles of the Route 347 Reconstruction Project(estimated construction cost $500M-$800M environmental mitigation). The project consisted of developing two alternatives, including the No Build, for the roadway. The project encompassed 2 interchanges at major intersections, and 35 intersecting cross roads, noise walls, ROW acquisitions, storm water recharge basins. Additionally, the project examines traffic demand management and traffic system management strategies, namely ITS solutions. The project is being coordinated among five subconsultants, local municipalities, community planning boards, chambers of commerce, and cooperating federal and state agencies. A full Environment Impact Statement and a design report, including plans for the community-sensitive alternative, are being prepared.

NYC Dept. of Transportation, Bridge Rehabilitation Projects (Metropolitan Avenue over English Kills, Brooklyn Queens Expressway over Cadman Plaza, Crooke Avenue over the BMT, Newkirk Avenue over the BMT, Grand Street over Newton Creek, and Bryant Avenue

over Amtrak and ConRail, Brooklyn and Bronx, NY. Manager of the Highway/Civil design efforts in the production of construction plans, including alignment, profiles, grading, paving, drainage, and MPT Plans; estimates; and specifications for the roadways.

NYS Dept. of Transportation, Rehabilitation of 16 Bridges on or Spanning the Cross Bronx Expressway, Section I-95 Alexander Hamilton Bridge Complex from Amsterdam Avenue in New York County to Undercliff Avenue in Bronx County (2000-2009). Principal Engineer responsible for the civil engineering and the preparation of construction staging and MPT plans for both the main line and the interchange ramps for Segment 1, and the coordination of MPT for all four segments. Mike was responsible for coordinating such tasks as MPT, including the development of a detailed traffic network model to assess various construction staging and MPT scenarios for various roadways. The project consisted of more than 10 miles of roadways and construction contract packaging for 50 bridges on or spanning the CBE.

NYS Dept. of Transportation, Design Phases I-IV for Route 34; Northern State Parkway to Route 25A, Suffolk County, NY (1994-1996). Project Manager for the preliminary design (Phases I-IV) for 15 miles of the Route 347 Reconstruction Project (estimated construction cost ($300M-$400M). The project consisted of developing three (3) alternatives for the roadway, including as many as 22 interchanges, parallel service roads, and intersecting crossroads. Additionally, the project examined traffic demand management and traffic system management strategies, including HOV, employer commuter options, and ITS. Land use options were also considered such as Down Zoning, Transfer of Development Rights, and Development Improvement Districts. The project was coordinated among four (4) subconsultants, local municipalities, community planning boards, chambers of commerce, and cooperating federal and state agencies. A full Environmental Impact Statement and a design report, including plans for each alternative, were being prepared.

NYS Dept. of Transportation, Route 9A Reconstruction Project Horatio Street to West 26th Street, Phases V-VI, NY (1998). Project Engineer for final design services for this one-mile segment. This $70 million project involved full reconstruction of the roadway to provide a landscaped Boulevard adjacent to the Hudson River. Mr. Murno directed the development of MPT and civil designs for the project, which encompassed six construction stages. MPT was complicated by the extensive underground utility work of the project, which included a system of duel 20-inch water mains, a new storm sewer system, a relocated outfall/tide gate chamber and new nine-duct telephone bank. Extensive coordination was required with major adjacent uses, which included the Gansevoort Meat Market and the Chelsea Piers Sports Complex.

NYS Dept. of Transportation, Design Phases I-IV Trans-Manhattan Connector Ramp from the Harlem River Drive, Manhattan, NY (2000-2005). Project Manager for the preliminary design phases, consisting of alternative analyses, traffic and environmental studies and Environmental Analysis (EA), including a final design report for the rehabilitation of the ramp connecting the Harlem River Drive with the Trans-Manhattan Expressway. Responsible for developing four alternatives with respect to the rehabilitation/ replacement of the Ramp; the No Build Alternative, a full rehabilitation of the existing ramp, a complete replacement of the existing ramp on the existing alignment, a partial/complete replacement on new alignments both onshore and offshore.

Stanley J. Rosenblum
Project Director

Education

- MA, City and Regional Planning, 1978
- BA, Political Science, 1974

Employment History

2002-Present - Jacobs
1998-2002 - NJ Transit
1994-1998 - NJ Department of Transportation
1981-1994 - NJ Transit
1978-1981 - Gov. Byrne's NJ/Washington Office

Mr. Rosenblum's professional career spans both the private and public sector. He has direct experience in the day-to-day operations of complex organizations, legislative experience at both the Federal and State levels of government, and public policy and strategic planning experience in both the public and private sectors. As Vice President of Operations for Jacobs, Mr. Rosenblum manages the Mid-Atlantic Infrastructure Region where he is responsible for overseeing the quality work performance and operational productivity of approximately 600 professionals. He has served in leadership positions with Jacobs since 2002.

Mr. Rosenblum has extensive experience in leading large transportation organizations, and spearheading planning, policy and legislative issues at the Federal and state level. He has directed numerous efforts to improve operational performance and efficiency, secure and advance innovative financing solutions, and advance complex policy initiatives related to the prioritization of investments and strategic planning.

Mr. Rosenblum served as Acting Executive Director of NJ TRANSIT and as the public agency's Chief Operating Officer/Deputy Executive Director from 1998 through 2002, where he was responsible for day-to-day operations and the overall operational performance of the third largest transit agency in the United States. He implemented quality improvement programs that resulted in the high levels of rail on-time performance and bus reliability. He also served as the transit agency's lead person on policy development and legislative affairs earlier in his career at NJ TRANSIT. During his tenure at NJ TRANSIT, he implemented service standards and performance objectives that resulted in NJ TRANSIT meeting or exceeding financial and operational performance objectives; advanced the procurement of approximately $1 billion of commuter rail and over-the-road and urban bus and light rail rolling stock. During his tenure NJ TRANSIT initiated light rail service on the Hudson-Bergen Line, and extended operations of the Newark city subway. Mr. Rosenblum implemented programs to prioritize and evaluate capital investments, established a streamlined capital project delivery process that reduced conception to construction time by 25 percent, and initiated cost control programs that increased the financial performance of bus and rail services, while reducing administrative overhead and costs.
Mr. Rosenblum also served as the Deputy Commissioner of Transportation for the New Jersey Department of Transportation, and in other senior positions from 1996 through 1998. His emphasis as Deputy was on improved maintenance and operational practices, the implementation of strategic performance measures for capital program delivery and prioritization, strategic plans related to ITS deployment, and an improved integration of services with local governments for the construction of local road projects and the delivery of local based transit services.

Project Assignments with Jacobs

NJ Turnpike Authority (NJTA), Interchange 6 to 9 Widening, Section No. 8 Design, NJ. Deputy Project Executive responsible for assuring adequate resources to support the project, adherence to Jacobs procedures and overall project oversight for the widening of the NJ Turnpike from Interchange 6 to 9. This project involves a total of eight design sections between Milepost 48.7 and 82.6 along the NJ Turnpike Maineline. Working closely with the NJ Turnpike and other

consultants, Jacobs' responsibilities included the fast tracking of environmental permits, final design, and construction support for this widening.

Port Authority of Allegheny County, Program and Construction management for the North Shore Connector, Allegheny County, PA. Deputy Project Executive responsible for assuring adequate resources to support the project, adherence to Jacobs procedures and overall project oversight for the expansion of the Port Authority of Allegheny County's light rail system in order to connect downtown Pittsburgh to the Shore through the construction of two bored tunnels under the Allegheny River and the construction of two new stations. Jacobs' responsibilities include program and construction management of this $450 million federally funded project.

Dulles Rail Extension
Deputy Project Executive responsible for assuring adequate resources to support the project, adherence to Jacobs procedures and overall project oversight for the extension of Washington's Metro system, 23.1 miles from East Falls Church Metro Station westward to Ashburn in Loudoun County Virginia (11 new stations). Jacobs' responsibilities on this project include program management support and construction management oversight.

Projects with NJ TRANSIT/NJDOT:
Transportation Capital Investment Strategy (TCIS). Project Director responsible for establishing the policy framework and guidelines required to implement a TCIS for NJDOT and NJ TRANSIT. The project included an assessment of current conditions; and the development of standards for reinvestment based on factors including useful life; safety; customer impact; and reduction in operation costs. The TCIS became the guiding document for capital programming decisions at both NJ TRANSIT and NJDOT.

NJ TRANSIT Fast-Track Program: Project Director for the fast tracking of six critical infrastructure projects at NJ TRANSIT. The fast track program's goal was to significantly reduce the schedule to bring these projects to construction through the leveraging of unencumbered funds, streamlining of the environmental review process, consideration of design alternatives and the implementation of innovative and simplified procurement strategies.

NJ TRANSIT Station Program: Project Director for the implementation and advancement of the NJ TRANSIT Station Program. The Station Program's goal was to develop uniformed standards for NJ TRANSIT stations as it related to station capital conditions, cleanliness and customer services; the identification of capital funding to support the station program, and a community outreach effort to increase local interest in the station as a community asset.

NJ TRANSIT Long Range Plan: Project Director for the development of NJ TRANSIT's Long Range Plan that identified the trends, conditions and needs of public transportation operations, and capital reinvestment. The plan also articulated a series of public policy proposals required to support the long term growth of transit in the state. The plan was adopted by the NJ TRANSIT Board of Directors and approved by the Governor's Office.

Michael J. Kennedy, PE
QA/QC

Education

- **BS, Civil Engineering, Bucknell University, 1980**

Registration

- **Professional Engineer: NY #** [redacted]

Employment History

- 1980-present - Jacobs

Michael Kennedy has served as project manager on a wide variety of civil engineering assignments, including projects for site development, rail expansion and aviation improvements, new facility construction, and highway reconstruction. These projects have included conceptual studies, Major Investment Studies, Environmental Impact Statements, preliminary designs, preparation of final contract documents and design-build. He has been responsible for overall client contact, technical designs, quality control, budget and schedule. Mr. Kennedy has been in charge of producing contract documents on projects with construction costs ranging from $500,000 to $282 million. A skilled communicator, he maintains a strong public information program, building trust through proactive, informative, and honest communication.

Project Experience

Amtrak, Nationwide Program Management for Designated American Recovery and Reinvestment Act Projects (ARRA). Nationwide Design Manager overseeing the development of bridging documents for more than 400 Amtrak projects nationwide. The bridging documents will be used to procure approximately 50 design-build contractors to complete the series of ARRA stimulus projects within an 18-month time period. As the Nationwide Design Manager, Mr. Kennedy is responsible for delivery of these documents for $460 million worth of improvements at stations, facilities and along the mainlines. The work includes facility upgrades, security enhancements, station improvements, track replacement, signal projects, and right-of-way upgrades.

Port Authority of NY&NJ, Relocation of Taxiways "I" and "O" at John F. Kennedy International Airport, Queens, NY. Engineer responsible for the "landside" designs of the relocated service roads, parking lots, details and the construction cost estimate for the Port Authority of New York and New Jersey, as part of final design contract documents for the $30 million relocation of the two most heavily utilized taxiways at Kennedy Airport.

Port Authority of NY&NJ, 1990 - 1999 Civil Engineering Services on a "Call-In" Basis, NY & NJ. Project Manager responsible for more than thirty different projects encompassing rehabilitation and design for roadways and parking lots. Some of the projects included:

- LaGuardia Airport: drainage and utility study encompassing existing lines and proposed improvements
- JFK and LaGuardia Airports: design of new intersections and service roads, including drainage and utility designs
- Newark Airport: design and reconstruction of three parking lots at. This work included utility studies, regrading, architectural improvements, drainage design and maintenance of traffic
- North Tube of the Lincoln Tunnel: rehabilitation including pavement reconstruction, drainage improvements, traffic control, plaza reconstruction and construction sequencing; rehabilitation of roadway slabs over an electrical vault at the Lincoln Tunnel toll plaza
- Port Newark and Port Elizabeth: roadway rehabilitation and track reconstruction on several streets
- George Washington Bridge: safety recommendations for impact attenuators
- Outerbridge Crossing: rehabilitation of roadways and parking lots

- Goethals Bridge: fencing improvements

MTA Metro-North Railroad, Cortlandt Station Parking, Intermodal and Access Improvements, Cortlandt, NY. Project Manager for this $25 million project to add 750 parking spaces, a new pedestrian overpass, station and plaza to the Metro-North Railroad Cortlandt Train Station. The project involves new utilities, lighting, stormwater management facilities, roadway bridge, access road, retaining walls and toilet facility. Mr. Kennedy is responsible for the day-to-day management of the design, quality, administrative tasks and schedule.

MTA Long Island Rail Road, Arch Street Yard and Shop, Queens, NY. Managed design for a $76 million design-build project that received the American Council of Engineering Companies' "Diamond Award for Engineering Excellence, New York City;" and the American Society of Civil Engineers' "Design-Build Project of the Year Award," New York City. He was responsible for producing nearly 900 contract drawings. The state-of-the-art facility is located on a 12-acre site and contains a 5-track heavy maintenance shop, administration offices, rail yard and several storage buildings. The new facility can accommodate more than 200 employees and has its own substation. LIRR sent a letter to our senior management stating that they "were extremely pleased with the cooperation of the design-build team and their commitment to providing a superior product." They also recognized "the efforts of Design Manager Michael Kennedy" and "the many competent design personnel that worked on the project."

MTA Metro-North Railroad, Harmon Shop Replacement Phase III, Croton-on-Hudson, NY. Design Manager responsible for the design for the largest engineering and construction project ever awarded by Metro-North Railroad. Responsible for preparation of approximately 1,750 contract drawings within a 12-month time frame. Oversaw technical team, administration, budget, and schedule. The $282 million project included a 65,000-SF locomotive shop, a 110,000-SF coach shop, 15 new tracks, new K-9 grounds for MTA police dogs, and design of drainage, utilities, communications systems, power, lighting, snowmelter, and traction power systems. All elements of the 20-acre site were designed in an active rail yard.

MTA Metro-North Railroad, Wheel Truing Facility, Croton-on-Hudson, New York, NY. Lead Civil Engineer responsible for the site civil and utilities designs. The project involved a new Wheel Truing Facility at Harmon Yard, including roadways, utilities, and a drainage recharge system. The 12-month design-build project was especially fast in order to get the facility on-line for the peak wheel truing season in the autumn of 2007.

MTA Metro-North Railroad, Irvington, Greystone and Spuyten Duyvil Station Improvements and Expansion, New York, NY. Project Manager responsible for general conceptual, preliminary and final design contract documents covering site civil elements, including access road realignments and widening, parking lot reconfigurations, parking lot expansion, pedestrian circulation and amenities. Mr. Kennedy is responsible for coordinating technical designs and coordinating the design effort across a multi-discipline design team, consisting of electrical, structural, and civil engineering.

William J. DeGraaff, PE
Aviation Facilities – Project Manager

Education

- MS, Civil Engineering, 1975
- BS, Civil Engineering, 1972

Registration/Credentials

- Professional Engineer: NY#[redacted]

Employment History

- 2/2010-Present - Jacobs
- 2006-2010 – DY Consultants
- 1980-2006 – Federal Aviation Administration

Bill DeGraff's background includes an impressive 34 years of experience in airport planning and engineering, the majority of which has been with the FAA Airports Division. Bill has held numerous managerial positions while in the Airports Division, including Deputy Division Manager, Acting Division Manager, Safety & Standards Branch Manager and Programming & Planning Branch Manager. In addition, he was the Regional Runway Safety Program Manager for 5 years. Bill is very knowledgeable in airport design and construction standards as well as airport safety issues and with the many FAA Advisory Circulars that cover these topics. His contribution to airport planning and engineering projects is greatly enhanced, as a result of his thorough understanding of FAA Standards and protocols. Bill is considered an expert in airport paving and airport safety. He has made numerous presentations on these topics at conferences throughout the country.

In his former career with FAA, Bill has worked closely with the Port Authority staff on many issues. These topics included airport design and construction standards, requests for modifications to standards, compliance with Part-139, as well as grant funding and runway safety issues.

Project Experience

DY Consultants, Director of Technical Services (2006-2010)
Bill served as Project Manager for airport engineering and planning projects and resident expert on FAA design, construction, and safety standards. He was the liaison for coordination issues with FAA and provided advice/ assistance to junior airport engineers. Projects include:

- **Port Authority of New York & New Jersey:**
  - **JFK Rotating Beacon Relocation Analysis. Project Manager.** This project was a study to determine the three best locations for a new rotating beacon at Kennedy Airport as well as the best and most appropriate equipment (beacon) available for the airport. The existing rotating beacon is currently located on Hangar 12, which is scheduled for demolition.
  - **JFK, Runway 13L/31R and Runway 4L/22R, Runway Safety Area Improvement Project. Project Manager.** Bill's role was to identify all navigational equipment that would be required to be relocated under the various alternatives and identify new sites for each piece of equipment. Bill provided guidance on how to adjust or relocate these items to accommodate the new location of the runway ends.

- **Los Angeles World Airport, Peer Review Group, LAX - Project Manager.**
  A Peer Review meeting for Los Angeles World Airport. The airport was considering runway/terminal alternatives to accommodate an increase in operations, the introduction of the Airbus A-380 and terminal capacity enhancements, all with severe Runway Incursion problems. Bill lent the group his expertise in Runway Safety in considering alternatives to airside improvements.

William J. DeGraaff, PE
Aviation Facilities – Project Manager

- **Connecticut Dept. of Transportation, Airport Obstruction Analysis. Project Manager.** Obstruction Analyses at Bradley International Airport as well as five general aviation airports. Project consisted of an in-depth analysis of FAR Part 77 surfaces and approach surfaces, TERPS, and ILS critical areas.

- **Groton-New London Airport, EMAS, Groton, CT. Project Manager.** Design and installation of an Engineered Materials Arresting System at an environmentally sensitive airport.

- **East Hampton Airport, Airport Master Plan, East Hampton, NY. Project Manager.** Development of a non-FAA funded Master Plan, which presented alternatives for the future of a controversial airport in the very noise sensitive area of the Hamptons.

- **Capital City Airport, MALSR Installation, Harrisburg, PA. Project Manager.** In charge of replacement of an SSALR approach lighting system with a MALSR. Light stations traversed a residential area presenting numerous design/construction challenges. Project also included design and installation of a PAPI.

- **Trenton-Mercer Airport, Taxiway A, C and J Rehabilitation, Trenton, NJ. Project Manager.** Coordinated and oversaw design and construction of over 7,000' of taxiways. This project encompassed pavement rehabilitation, survey work, drainage and the installation of new technology LED lights on the taxiways.

Bill was also a valued member of the team on the following Port Authority projects:
- JFK Operational Efficiency Study
- ALP Update (EWR, JFK, LGA, TEB)
- Snow Study Update (All five Port Authority Airports)
- Delay Reduction Initiative (All five Port Authority Airports)

Federal Aviation Administration – Eastern Region, Queens, NY (1980-2006)
- Regional Runway Safety Program Manager. 10/2000-2006. Bill served as a recognized technical authority on the Runway Safety Program and as such was responsible for the formulation, direction, coordination, management and evaluation of runway safety strategic plans, programs, procedures and mitigation strategies. The purpose of the work was to maximize safety, efficiency and service levels within the National Airspace System by reducing runway incidents/accidents.
- Deputy Manager, Airports Division. 4/1997-10/2000.
- Acting Manager, Airports Division. 6/1996-4/1997
- Manager, Planning & Programming Branch, Airports Division. 5/1994-6/1996.
- Manager, Safety and Standards Branch, Airports Division. 7/1987-5/1994.
- Supervisor, Standards Section, Airports Division. 8/1986-7/1987.
- Paving Engineer, Standards Section, Airport Division. 12/1982-9/1986.
- Supervisory Civil Engineer, Construction Branch, Airways Facilities Division. 12/1980-12/1982.
- Civil Engineer, Construction Branch, Airways Facilities Division. 6/1976-12/1980.

Christopher W. Bowker, Jr., PE
Aviation

Education

- BS, Civil Engineering, 1990

Registration/Credentials

- Professional Engineer: MA, FL, VA

Mr. Bowker has over 18 years of experience in airport engineering with specific emphasis on airfield related projects. He is extremely familiar with the FAA Advisory Circulars and the various requirements of the FAA. Mr. Bowker not only has experience in the traditional "design/bid/build" delivery method of a project, but has also been involved with FAA reimbursed design-build projects.

Mr. Bowker currently serves as a Senior Project Manager / Aviation Practice Leader. Mr. Bowker's professional experience reflects his strong aviation background. He has served as a Project Manager and Resident Engineer on numerous airport design and construction projects ranging from small general aviation airports to major hub airports. Projects have included pavement design for runways, taxiways, and parking aprons, the installation of guidance signs, taxiway centerline and edge lights; pavement rehabilitation and overlays; airfield drainage NAVAIDS, and design and construction of Engineered Material Arresting System (EMAS).

Project Experience

Port Authority of NY & NJ, Engineered Material Arresting System (EMAS), Newark Liberty International Airport, Newark, NJ. Project Manager on this Design-Build project to design, permit and construct an Engineered Material Arresting System in the overrun to Runway 29. The project included designing the site to accommodate the installation of and EMAS. The site improvements included drainage and earthwork, which required the project to obtain permits from NJDEP and Bergen County. Jacobs' responsibilities included all aspects of design, permitting and the construction of the site improvements and the installation of the EMAS material. Project management responsibilities included all aspects of design, construction management, safety, and subcontractor and subconsultant coordination.

Port Authority of NY & NJ, Engineered Material Arresting System (EMAS), JFK International Airport, Queens, NY. Project Manager on this Design-Build project to design, permit and construct an Engineered Material Arresting System in the overrun to Runway 22L. The project included designing the site to accommodate the installation of and EMAS. The site improvements included drainage, earthwork, re-routing low and high voltage utilities, and modifications and upgrades to ALSF-2 approach lights. Jacobs' responsibilities included all aspects of design, permitting and the construction of the site improvements and the installation of the EMAS material. Project management responsibilities included all aspects of design, construction management, safety, and subcontractor and subconsultant coordination.

Port Authority of NY & NJ, Engineered Material Arresting System (EMAS), Teterboro Airport, Teterboro, NJ. Project Manager on this Design-Build project to design, permit and construct an Engineered Material Arresting System in the overrun to Runway 6. The project included designing the site to accommodate the installation of and EMAS. The site improvements included drainage and earthwork, which required the project to obtain permits from NJDEP and Bergen County. Jacobs' responsibilities included all aspects of design, permitting and the construction of the site improvements and the installation of the EMAS material. Project management responsibilities included all aspects of design, construction management, safety, and subcontractor and subconsultant coordination.

Christopher W. Bowker, Jr., PE
Aviation

Port Authority of NY & NJ, Engineered Material Arresting Systems, LaGuardia Airport. Design Engineer and Construction Manager on this Design-Build project for two Engineered Material Arresting Systems (EMAS) in the overruns of Runways 22 and 13 at LaGuardia Airport. Responsibilities included design and construction supervision. Design involved preparing construction plans and specifications. Construction supervision involved construction inspec-tion, coordination of construction subcontractors with the airfield operational requirements, and certifying the installation of each EMAS.

Pensacola Regional Airport, Terminal and Parking Structure Expansion, Pensacola, FL. Project Principal directed design efforts for this multi-facility, multi-phase project expansion of the existing apron, construction of a new remote overnight parking area, relocation of airfield power and control circuits together with fiber optic cables. This project involved interfacing with facility utilities with the building expansion of the existing terminal as well as local utilities to coordinate the relocation and connection of storm, sanitary, water and natural gas. Extensive coordination with NWFWMD for permitting of the projects was also required.

Hartsfield-Jackson Atlanta International Airport, Extension of Runway 27R, Atlanta, GA. Project Manager for a 500 foot extension to Runway 27R and associated parallel taxiways L and M. The extension accommodated a three position "shotgun" start for group V and IV aircraft. The extensions included earthwork, drainage, PCC construction, taxiway edge and centerline light, runway edge and centerline lights, and pavement runway runway guard lights. The extensions also impacted existing FAA NAVAIDS. The project requires the relocation of the runway 9L localizer and the installation of in-pavement approach lights, along with modifications to existing approach tower elevations. Responsibilities include all aspects in design drawings, specifications, estimates, bidding, and construction administration.

Hartsfield Jackson Atlanta International Airport, Extension of Taxiway L, Runway Safety Area (27R), and Rehabilitation of Taxiway M, Atlanta, GA. Project Manager for the extension of Taxiway L and the rehabilitation of the parallel Taxiway M. The extension and rehabilitation is approximately 3,800 feet in length for each taxiway and included PCC construction, new taxiway centerline and edge lighting, runway guard lights, and illuminated guidance signs, new homerun cables, and modifications to the airfield lighting vault. The extension of the Runway 27R safety area included the construction of an MSE retaining wall. Responsibilities included all aspects in design drawings, specifications, estimates, bidding, and construction administration.

Norwood Memorial Airport Commission, Runway 17-35 Reconstruction, Construction of Runway Safety Areas, Relocate PAPI's and Approach Lights, Norwood, MA Project Principal for the design and reconstruction of Runway 17-35 and it's associated safety areas. This project required shifting the runway 200' to obtain the necessary safety areas, while at the same time minimizing the environmental impacts. The project also included the installation of 50 airfield illuminated guidance signs, 243 new airfield runway and taxiway edge lights (including new airfield lighting vault), three wind cones, 50 acres of tree clearing, and construction of 18,000 SF wetland replication. Responsible for coordinating design and construction efforts with the FAA to install two new PAPI and the relocation of the existing MALSF. Responsibilities included design, bidding, and construction administration.

David M. Chamberlain, PE
Aviation

Education

- BSCE, Civil Engineering, 1989

Registration/Credentials

- Professional Engineer: NH[redacted]; ME #[redacted]
- Professional Civil Engineer: FL#[redacted]

Dave Chamberlain has served as PIC, Senior Project Manager, Project Engineer, and Resident Engineer on numerous aviation and airport design and construction projects. His design experience includes grading, drainage, runway and taxiway pavement design, apron pavement design, design and layout of runway and taxiway lighting systems, horizontal and vertical alignment, cross sectioning, and estimating construction quantities and costs. His field inspection experience includes earthwork, Portland cement concrete pavement, bituminous concrete pavement, high voltage lighting installation, and electrical vault construction. Dave has extensive experience preparing Federal and State grant applications, technical specifications, design reports, construction reports, and record drawings for airport improvement projects. He is also intimately familiar with Federal Aviation Administration design and construction criteria, as well as the various requirements of State agencies.

Project Experience

County of Fulton, Rehabilitate Runway 10-28 and Parking Apron Expansion-Fulton County Airport, Johnstown, NY. Project Manager responsible for the design and construction administration for the rehabilitation of Runway 10-28 and aircraft parking apron expansion at the Fulton County Airport. The runway rehabilitation portion of the project consisted of reclaiming the existing runway pavement and base course, re-grading and compacting the reclaimed base material, constructing a bituminous concrete surface course, and painting new runway markings. The apron expansion portion of the project consisted of construction of a full depth pavement box, new drainage structures and pipes, new under-drain and drainage grass swales.

County of Saratoga, Reconstruct, Mark and Light Runway 5-23-Saratoga County Airport, Milton, NY. Project Manager responsible for the design and construction administration for reconstructing the 4700 ft Runway 5-23 at the Saratoga County Airport. Project consisted of reclaiming the existing bituminous concrete pavement and amending the base with supplemental aggregate, new bituminous concrete pavement, new medium intensity runway edge light system, new pavement marking, and runway safety area grading.

County of Saratoga, Remove Obstructions Runways 5-23 & 14-32, Saratoga County Airport, Milton, NY. Project Manager responsible for removing obstructions from Runway 5-23 and Runway 14-32 at the Saratoga County Airport. Approximately 42 acres of vegetation were penetrating the approach/departure clear surfaces for both runways and another 29 acres of vegetation were within 15 ft of the surfaces which are required to be clear of all obstructions by the FAA. This project included the clearing of the 71 acres of vegetation. Because of the clearing proximity to the Blue Lupine/Karner Blue Butterfly habitat, a federally endangered species, areas affected by the obstruction removal were replanted and maintained in an effort to create additional hospitable habitat for the species.

County Of Saratoga, Reconstruct, Mark, and Light Runway 14-32-Saratoga County Airport, Milton, NY. Project Manager responsible for the design and construction administration for reconstructing the 4000 ft Runway 14-32 at the Saratoga County Airport. Project consisted of reclaiming the existing bituminous concrete pavement and amending the base with supplemental

aggregate, new bituminous concrete pavement, new medium intensity runway edge light system, new pavement marking, and runway safety area grading.

MassDOT Aeronautics LPV Aeronautical Surveys for Three GA Airports, Various Locations, MA. Principal-in-Charge for this FAA-funded project to develop the first state-contracted LPV instrument approaches at three GA airports: Mansfield, Martha's Vineyard, and Taunton. Jacobs and its team prepared the aeronautical mapping, ground surveys, and obstacle analysis to obtain the lowest LPV minimums at each airport. This was in compliance with FAA Advisory Circulars 150/5300-16A for Aeronautical Surveys; -17B Imagery for National Geodetic Survey; -18B Data Collection and GIS Standards; AC150/5300-13 Airport Design; and FAA Orders 8260.3B TERPs and 8260.54A RNAV approaches. The key objectives were to: (1) obtain geodetic control and survey at each airport; (2) collect aerial photogrammetric imagery to support the development of the LPV approach procedures; (3) submit the survey data to the FAA and National Geodetic Survey (NGS) for approval; (4) analyze the airspace surfaces to identify any penetrations and mitigation to obtain the lowest possible LPV approach minimums; (5) coordinate with the three airports, MassDOT Aeronautics, and the FAA throughout the project to ensure minimal delay in obtaining these innovative new procedures.

City of Chicago, O'Hare Modernization Program, Runway 10C-28C and Associated Taxiways, NAVAIDS, Chicago O'Hare International Airport, Chicago, IL. Task Manager responsible for the design and preparation of bid documents for the NAVAIDS portion of the above project. NAVAID design items included a localizer and glide slope on both ends of the new runway, ALSF-2 systems on ends, inner markers, runway visual range, far field monitors, precision approach path indicators, and a fiber optic network back to the air traffic control tower for systems control.

City of Bangor, Reconstruct Terminal Apron Phase 4, Bangor International Airport, Bangor, ME. Project Manager responsible for design and construction administration of the reconstruction of the existing 346,600 SF PCC Apron and 50' Shoulder pavement. Project was designed to FAA Standards and elements of the project included removal of existing PCC pavement, bituminous concrete pavement, trench drains, PCC milling and reclaiming the existing bituminous concrete shoulder pavement. New construction elements include sub base course, crushed aggregate base course, bituminous concrete overlay, bituminous concrete shoulder pavement, ASR pressure relief strips, PCC pavement and jointing, trench drain, concrete drainage structures, oil/water and sediment separator reinforced concrete and ductile iron drainage pipe, under drain, glycol recovery system, adjustment of fuel hydrants, PCC saw cut control joints, bituminous concrete saw cut control joints, taxi lane painting, slurry seal, actuated gate valves, and flow meters.

Maine Department of Transportation, Reconstruct Mark and Light Runway 14-32, and Obstruction Removal/Vegetation Management Plan-Newton Field Airport, Jackman, ME. Project Manager responsible for the design of Runway 14-32 at Newton Field Airport in Jackman, Maine. Projects included new vertical alignments, new bituminous concrete pavement, rehabilitating the existing rigid foam insulation, constructing additional frost protection above the existing rigid foam insulation, safety areas grading, new runway edge lighting system, new underdrain, new pavement markings, and obstruction removal for FAR Part 77 surfaces.

Stephen J. Flecchia, PE
Aviation

Education

– BS, Civil Engineering, 1990

Registration/Credentials

– Professional Civil Engineer: MA [redacted]

Stephen Flecchia's design experience includes grading, drainage, and pavement design of runway, taxiway, apron, and safety area construction, as well as terminal, aircraft rescue fire fighting, and snow removal equipment facilities. His field inspection experience includes earthwork, drainage, pavement, and electrical installations. He also has prepared federal and state grant applications, contract documents, technical specifications, construction management plans, disadvantaged business enterprise goals, construction reports and, record drawings for various airport improvement projects. Mr. Flecchia is experienced with Federal Aviation Administration design and construction criteria and has attended and conducted various project progress meetings including pre-design, pre-bid, pre-construction and final inspection meetings.

Project Experience

Martha's Vineyard Airport Commission, Shift Runway 6-24, Martha's Vineyard Airport, West Tisbury, MA. Project Manager for the construction of an airport improvement that includes the shifting of the airport's only instrument runway. The project involves shifting the runway 303 feet to the northeast to allow the construction of FAA standard safety areas. Four FAA NAVAIDs will be relocated as a result of the runway shift. NAVAID facilities to be relocated include the glide slope antenna and equipment shelter, REILs, PAPIs, and approach lights.

Provincetown Airport Commission, Re-Stripe and Crack Fill Runway 7-25, AIP 3-25-0043-26-2009, Provincetown Municipal Airport, Provincetown, MA. Project Manager for the restoration of critical runway pavement markings and crack sealing maintenance. Construction phasing had to occur at night as this is the airports only runway that has commercial service to Boston Logan International Airport.

Provincetown Airport Commission, Reconstruct Terminal Apron (Approx. 400' x 130'), AIP 3-25-0043-23-2008, Provincetown Municipal Airport, Provincetown, MA. Project Manager for the reconstruction of the airport's only commercial terminal ramp. This project involved detailed construction phasing in tight conditions to allow minimizing the construction time frame while maintaining secure and non-secure passengers safely to their respective airplanes.

Nantucket Airport Commission, Terminal Improvement Project, AIP 3-25-0033-42/45/46/48-2006/2008/2009, Nantucket Memorial Airport, Nantucket, MA. Project Manager assigned to Owner's Project Manager (OPM) services for a $30 million major renovation and building expansion. This project included approximately 12,500 square feet of major renovations and an approximate 18,000 square foot new building expansion. This project also featured unique construction technology including the installation of a geothermal well HVAC system.

Nobadeer Hangars LLC, Nobadeer Hangar Site Development, Nantucket Memorial Airport, Nantucket, MA. Project Manager for a private development that included civil/site layout, grading, drainage, electrical, sewer, telephone, and cable work for three proposed aircraft hangars on the north side of the airfield. This project involved such challenges as the successful Massachusetts Aeronautics Commission airspace determination and a Commonwealth of Massachusetts Ethics Commission decision.

Stephen J. Flecchia, PE
Aviation

Nantucket Airport Commission, Replace Taxiway A, B, C, D, and E Edge Lights (MITLS) and Fence (Approx. 6,600 L.F.), AIP 3-25-0033-43-2007, Nantucket Memorial Airport, Nantucket, MA. Project Manager for the replacement of a majority of the entire airfield taxiway edge lighting system. This project replaced existing direct buried/stake mounted incandescent fixtures with a light base and conduit/LED fixture system. The project also replaced several thousands of feet of existing airport perimeter/security fence.

Provincetown Airport Commission, Purchase Snow Removal Equipment (SRE) Truck, AIP 3-25-0043-21-2007, Provincetown Municipal Airport, Provincetown, MA. Project Manager for the acquisition of a snow plow vehicle for the airport. Worked closely with Airport Management to obtain the intended SRE characteristics. Prepared project grant applications and attended State grant vote approval process.

Norwood Airport Commission, Snow Removal Equipment (SRE) Building, AIP 3-25-0037-28-2007, Norwood Memorial Airport, Norwood, MA. Client Project Manager for the design and construction of a snow removal equipment building. Coordination with an outside architectural firm and internal mechanical, electrical, plumbing, fire protection, structural, and civil/site engineers to complete the design of a four bay garage with office and storage space. The building also includes eventual space for airport management, an airport conference room, and other airport administration space. Coordination involved with the local conservation commission as project limits were located adjacent to protected wetlands and within a wetland buffer zone.

Norwood Airport Commission, Reconstruct Gate 3 Apron (Approx. 325' x 260') and Taxilane (Approx. 600' x 35'), AIP 3-25-0037-27-2006, Norwood Memorial Airport, Norwood, MA. Project Manager for the design and construction of an aircraft parking apron reconstruction improvement. The scope involved close coordination with airport staff and tenants as several aircraft had to be temporarily relocated during construction as well as dealing with impacts to a taxilane serving several facilities such as aircraft maintenance, fueling, and parking. Coordination involved the local conservation commission as project limits were located adjacent to protected wetlands and within wetland buffer zones.

Nantucket Airport Commission, Final Terminal Design and Improvements/Program Management, Nantucket Memorial Airport, Nantucket, MA. Project Manager for a $25 million terminal improvement project. The project included the rehabilitation of the airport's existing terminal and the construction of a new terminal addition. Elements of the project included coordination with the airport's architect/engineering firm and the construction management company. Responsibilities involved meeting coordination and Owner's Project Management (OPM) work tasks under the projects Construction Manager at Risk format.

Nantucket Airport Commission, Purchase Re-Circulating Air Sweeper, Nantucket Memorial Airport, Nantucket, MA. Project Manager for the acquisition of a self propelled mechanical pavement sweeper for the airport. Worked closely with airport maintenance staff to obtain the intended sweeper characteristics. Prepared the bid documents and assisted the airport through the advertisement process up to project close-out.

Richard A. Lasdin, PE
Aviation

Education

- BSCE, Civil Engineering, 19189

Registration/Credentials

- Professional Engineer: ME[redacted] PA #[redacted]
- Professional Civil Engineer: MA#[redacted]

Richard Lasdin is a Principal Engineer and Project Manager for Jacobs' Airports Group. He brings over 25 years of engineering experience, including 10 years focusing on a wide variety of aviation design and construction projects. Mr. Lasdin is intimately familiar with all aspects of project development, from the initial data collection phase, through the design and bidding stages, to ultimately performing construction management and inspection. In recent years, he has successfully completed assignments at a broad range of aviation facilities, including Logan International Airport, Philadelphia International Airport, T.F. Green Airport, and Barnstable Municipal Airport. For each assignment, he draws upon his vast experience to ensure projects are designed and constructed with minimal impacts to day-to-day airport operations.

Prior to joining Jacobs, Mr. Lasdin worked for 15 years in the design and construction of roadways, bridges, toll facilities, and airports. During this time, he developed extensive knowledge of AASHTO and state guidelines for highway and street design. His experience includes the design of new roads and the widening/rehabilitation of existing roads. His construction experience includes serving as a Resident or Construction Manager for heavy highway and bridge construction projects involving concrete construction, steel erection, earth support, foundation construction, blasting and road construction. Mr. Lasdin has also overseen the construction or rehabilitation of various specialty projects related to toll road facilities.

Project Experience

Massachusetts Port Authority - Airfield Engineering Consultant, Massachusetts. Project Manager overseeing all projects issued through a term consulting engineering contract. Projects vary and have included taxiway construction and improvements; airfield electrical and lighting studies and improvements, ALP update, Telecom infrastructure studies, and construction administration. Duties include QA/QC, scope and fee development, and overall project management.

Massachusetts Port Authority – Runway 22R/33L Runway-End Safety Area Improvements EA/EIR, MA. Project Manager overseeing development of airfield planning and engineering of multiple concepts to improve the runway safety areas. The concepts included various studies for shortening and shifting of the existing runways, and constructing infrastructure within the Boston Harbor in order to allow for runway end safety areas complying with FAA requirements.

T.F. Green Airport, Improvement Program- Environmental Impact Statement, Providence, RI. Project Manager overseeing the development of multiple different concepts proposed to improve safety and enhance capacity at T.F Green Airport. These concepts involved expanding the terminal, replacing related support facilities, runway safety area improvements, runway lengthening, taxiway and airfield facilities upgrades and improvements. Specific design elements included terminal and airfield design, airspace analysis, scheduling and phasing, and cost estimates.

Philadelphia International Airport, Capacity Enhancement Program – Environmental Impact Statement, Philadelphia, PA. Deputy Project Manager overseeing the development of three

different concepts proposed to replace Philadelphia International Airport. These concepts involved replacement of the terminals and related support facilities, the runway and taxiway system, and all airfield facilities. Specific design elements included terminal and airfield design, airspace analysis, scheduling and phasing, and cost estimates. Specific design responsibilities included the development of airfield geometry and determining locations for the airport general aviation and support services facilities. Also responsible for the development of the construction schedule and phasing plans for this 12-year, multi-billion dollar project. Additional responsibilities included coordination of design efforts performed by three separate Jacobs offices and one subconsultant firm, totaling a project staff of 20 employees.

Massachusetts Port Authority, Upgrade Runway 4R-22L Lighting Systems. Project Manager and Resident Engineer responsible for design and construction related to the complete replacement of all lights, cables and regulators for Logan Airport's only category II runway. This project required extensive coordination with airport operations due to the nightly closures of this runway and all other intersecting taxiways and crossing runways.

Barnstable Airport Commission, Terminal Ramp Rehabilitation, Barnstable Municipal Airport, Hyannis, MA. Project Engineer for the rehabilitation of the terminal ramp. Design efforts included preparing plans, profiles, cross sections, a grading plan, specifications and engineers' estimates.

Massachusetts Port Authority, Taxiway K North Overlay and Miscellaneous Improvements, Logan International Airport, East Boston, MA. Project Engineer for design and Resident Engineer for construction of a portion of Taxiway K North. This project required the sequential closure of sections of the taxiway during construction and also included concrete repair work on specific airlines' gates requiring coordination with airline representatives.

Massachusetts Port Authority, Taxiway A North Overlay and Runway Ground Lights, Logan International Airport, East Boston, MA. Project Manager and Resident Engineer responsible for the complete design and construction of the Taxiway A North Overlay and Runway Ground Lights. Project required the sequential closure of ¾ miles of Taxiway A North and 15 aircraft gates. The temporary closure of the airport's main cargo ramp and aircraft overnight parking area required the design of a temporary taxiway and the temporary replacement of the overnight parking positions.

Massachusetts Port Authority, Taxiway A East 9-27 and 15R Rehabilitation, Logan International Airport, East Boston, MA. Project Engineer for design and Resident Engineer during construction. This project involved the sequential reconstruction of the taxiway plus the reconstruction of portions of two runways.

Provincetown Airport Commission, Runway 6-24 Rehabilitation, Provincetown Municipal Airport, Provincetown, MA Project Engineer responsible for the implementation of all requirements needed to satisfy the various permitting agencies, including Massachusetts DEP, Cape Cod Commission, National Park Service and Provincetown Conservation Commission. Additional responsibilities included generation and review of specifications.

J. Leo McGlynn, PE
Rail Facilities – Project Manager

Education

- B.S., Civil Engineering, Penn State University
- Conrail Executive Management Program, Penn State University
- Conrail Financial Management, University of Pennsylvania, Wharton School

Registrations and Certifications

- Professional Engineer: NJ and PA

Specialized Training

- Primavera Scheduling

Employment History

2009-present – Jacobs
1977-2009 – Conrail

Leo McGlynn is a results-oriented, responsible, engineering professional with extensive experience in railroad engineering, construction management, and design. He is a strong leader with excellent organization, financial management, and team building skills.

Project Experience

Conrail, Bergen Tunnel Enlargement. Project Manager for the $25 million National Docks Clearance Project including the enlargement of the Bergen and Waldo Tunnels. This private/public partnership (Conrail/NJDOT; Funding Sponsor FHWA) project included environmental permitting (CED), SHPO, Design and Construction Management for the vertical clearance of two tunnels (Bergen Tunnel and Waldo Tunnel) and the clearance under the NJ TRANSIT bridge. The environmental permitting requires the submission of a CED with major input from SHPO that required a detailed Memorandum of Understanding (MOU). The design work for the Bergen Tunnel included lowering and removing the track outside the northern portal. This added a pump station to remove the drainage water, since it was a low spot in the alignment, and clearance work within the tunnel, which was coordinated with a third party designer. The design work included track alignments, new track bed construction, utility coordination to limit impacts to three PSEG 138 KV oil static lines, relocation of fiber optic cable, regrading of drainage swales, maintenance cleaning of existing ditches, restoration of the historic Portals (North and South), permanent survey markers in the tunnel for line, and grade of the proposed track. The design work for the Waldo Tunnel included track alignment design, open cutting of 30 feet of the tunnel to provide the necessary vertical clearance, installation of steel structures to support the newly constructed wingwalls, and historic treatments to the southern portal to meet the stipulations outlined in the MOU. Other work performed was to perform a HAER document and perform work on a GIS database to illustrate the historical changes between the railroads. Jacobs was also responsible for the overall construction management of the project, which requires coordination with adjacent NJDOT contractors on the Route 1/9T project, verifying conformance to NJDOT polices and procedures for construction monitoring, and quality assurance for all the work associated with both contracts.

Project Experience with others

North Jersey Terminal Capacity Improvement Infrastructure Project, Newark, NJ for Consolidated Railroad (CONRAIL), Northern, NJ Completion 2009. While still working for Conrail, Mr. McGlynn was the Client Project Manager with overall responsibility for this $68 M+ program. The Program included seven projects: Valley to Stock, Valley to Pike, Pike to PN, Bay Line Yard, Chemical Coast, Double Tracking of the Lehigh Valley Line (Potter to Bound Brook 10.5 miles), and Port Reading Junction, Manville, NJ. Mr. McGlynn worked closely with the Jacobs staff who were providing design, bid assistance, construction support, and construction management as an extension of the Conrail staff.

Consolidated Rail Corporation, Philadelphia, PA (1977-2009). Mr. McGlynn has over 32 years of experience with Conrail, where he served in various capacities including:

J. Leo McGlynn, PE
Rail Facilities – Project Manager

Director Design and Construction (1999-2009)

Mr. McGlynn managed a team that was responsible for the design and construction of all capital and state participation projects and construction agreement negotiation with government and transit agencies. Responsibilities included safety, customer satisfaction, employee development, on-time performance, budget, design, estimating, and construction integration with rail operations. Staff Size: 7 to12

Directed a team that completed $168,000,000 in rail infrastructure projects including:

- North Jersey Infrastructure Project, 10 miles of double track from Bound Brook to Clark, NJ, 8.5 miles of secondary and yard tracks and 8 new remote controlled interlockings
- Northern Branch Double Track, 3.8 miles of new track and 2 new remote control interlockings between Jersey City and North Bergen
- Reviewed and approved the track design for 75,000 feet of new on-dock loading and support tracks at Port Elizabeth
- Led a team that managed the Conrail-NJDOT Joint Participation National Docks clearance and CP Port Reading Junction upgrade and expansion
- Worked closely with NJDOT rail freight section preparing and submitting applications for rail freight assistance. Managed the design and construction of approved projects including the International Paper industrial track upgrade in Florence, NJ and the new interchange track at Winslow Junction.

Area Engineer(1996-1999) / Engineer Construction (1986-1996)

Mr. McGlynn managed a team that completed an average of 33 capital projects ($27 million) and 300 force account construction projects ($10 million) each year. Projects included interlockings, intermodal terminals, pollution abatement facilities, tunnel enlargements, office buildings, material handling systems, and railroad and highway bridges. Staff Size: 12 to 18.

- Led a team that completed the customer sensitive commercially critical NJ, NY, and PA vertical clearance improvement projects at 56 locations, totaling $35 million. Projects included 12 rock tunnel enlargements and 4 new highway bridges.
- Managed a team that fast-tracked the design and construction of a new road bed for the Solomon's Gap, PA rock slide project. $400,000 drill and blast excavation that returned the Lehigh Line to service in one month.
- Developed and implemented a new computer program and estimating procedure for estimating the cost of track projects, which reduced cycle time 50% and improved accuracy 25%.
- Managed a team that safely completed the complex $5.5 million Newark CP "NK" main line interlocking project under budget and without impact to passenger traffic allowing freight train speed upgrades ahead of schedule.

N. Stephen Bond, PE
Project Manager

Education

- MS, Civil Engineering, 1977
- BS, Civil Engineering, 1971

Registration/Credentials

- Professional Engineer:
  NY #[redacted]
  NJ #[redacted]

Steve Bond has extensive experience in the management of railroad improvement projects. He has successfully managed multi-team efforts on time and within the client's budget. He is cognizant of the technical, environmental and community issues associated with advancing railroad improvement projects within the confines of constricted sites. Mr. Bond has been involved in numerous commuter rails, subway and light rail transit projects in the northeastern United States. The clients he has done work for include Amtrak, Long Island Rail Road, New York City Transit, Connecticut Department of Transportation, Metro-North Commuter Railroad, and NJ Transit. He has been Project Manager or Deputy Project Manager on a variety of structurally oriented multi-disciplined transportation projects.

Project Experience

Port Authority of NY & NJ, Civil/Rail Engineering "Call-In" during 2009-2010. Project Manager on tasks including:

- ***Track Design for PATH, Harrison Station Improvements.*** Provided final design of horizontal and vertical track alignments for both operating tracks to accommodate increasing the station platform lengths to allow 10 car trains. The alignments were coordinated with the proposed platform, retaining wall and catenary structures.
- ***PATH Pavonia/Newport Station Improvements.*** Investigated the potential impacts on ADA criteria of extending the existing station platforms with the existing track alignment to accommodate 8 car trains. This task required simulating car locations for the proposed platform extensions determining the maximum length that would meet ADA criteria.

Port Authority of New York & New Jersey, PATH Christopher Street Substation Modernization, New York, NY. Project Manager for the design of upgrades and replacement of the Port Authority Trans Hudson (PATH) Christopher Street Substation. This project requires replacing the 4 existing 1.5MW transformer rectifiers with 4 sets of new 3MW equipment in an existing historical building, landmark district area of New York City. The Christopher Street Substation is a vital component to the PATH operation as it supplies traction power and auxiliary power for all uptown Manhattan. The project requires providing an additional means of egress and includes modifications to the building structure, new control rooms and HVAC equipment without interruptions to existing PATH service.

MTA Metro-North/Amtrak, Engineering and Design of Shell At-Grade, New Rochelle, NY. Project Manager for the design of the $70 million at-grade improvements necessary to reduce Amtrak and Metro-North service conflicts at Shell Interlocking which handles over 250 trains per day. Improvements include three new interlockings, replacement of an undergrade bridge under traffic, track relocations, and platform extension at New Rochelle Station. Major improvements are required to the signals and catenary to accommodate the new track work. Sequencing of construction to maintain train operations at all times is a major aspect of this project.

MTA Metro-North, Engineering and Design for Addition of Mid-Harlem Third Mainline Track and Associated Interlocking Improvements, Mount Vernon to Crestwood, NY. Responsible for the project management, scheduling and control as well as the civil/track, structural, signals and communications, traction power, and rail operations design tasks for the addition of a new 3.2

mile main line track. Traction power modifications included a new third rail system with associated positive and negative feeder cables, control cable, ductline and conduit system, as well as modifications to substations. Trackwork required modifications to 2 interlockings.

Connecticut Dept. of Transportation, On-Call Railroad Engineering and Construction Inspection Services (Rail) Bridgeport, CT. Project Manager for an on-call contract to perform railroad-engineering assignments. The assignments included replacement design for a railroad bridge carrying 4 electrified Metro-North New Haven Line tracks over South Avenue in Bridgeport. The work required investigation of alternative structure types, geotechnical investigation to determine substructure modifications and preparation of final design plans, specifications and construction cost estimates. The assignments also included reviewing inspection reports for 70 bridges, prioritizing their condition and preparing design plans for 10 bridges. Design documents are intended for Metro-North Force Account personnel to perform the repairs.

MTA Metro-North Railroad, Design of Ten New Traction Power Substations on the Upper Harlem Line, Upper Harlem, NY. Project Manager responsible for providing design and procurement specification for two new 4MW, 700VDC prefabricated substations to be installed on the Upper Harlem Line. Design included 15Kv all-resistant switchgear (ConEdison and NYSEG territories), transformer rectifier equipment, 800VDC switchgear, SCADA RTU systems, 125VDC station battery and auxiliary power systems.

MTA Long Island Rail Road, Shea Substation Design, Queens, NY. Project Manager for the final design and construction phase services of a new dc traction power substation. The work included sitework, structural design, pile foundations and electrical design (ac and dc switchgear) for an indoor facility to replace the existing substation. The project was to serve as a prototype for all future substations. Construction phase services included assistance during bidding, review of contractor proposed alternative designs and field modifications.

MTA Metro-North, Penn Station Access – MIS and DEIS, New York, NY. Project Engineer for this Major Investment Study/Draft Environmental Impact Statement (MIS/DEIS) to examine the potential to connect Metro-North's Harlem, Hudson and New Haven Line services to Pennsylvania Station, New York (Penn Station). Mr. Bond was responsible for examination of existing track connections from Metro-North's New Haven and Hudson Lines to Penn Station on the west side of Manhattan to provide access for Metro-North trains into Penn Station. In addition, the study examined the potential to construct and provide service to new intermediate station(s) on the Hudson Line on the west side of Manhattan at 62nd and 125th Streets, and on the New Haven Line at Hunts Point, Parkchester and Co-op City in the Bronx. Services included the preparation of station layouts, capital and operating costs for recommended improvements.

Roseland Properties, LLC, Railroad Station Feasibility Study, Sleepy Hollow, NY. Project Manager for preparation of a Railroad Station Feasibility Study for a new Metro North passenger station at the site of the former General Motors automotive assembly plant in the Village of Sleepy Hollow, New York. The work included development of conceptual designs for various track and station platform configurations in consideration of all Metro-North operating requirements. Both center island and side platform concepts were developed. All concepts were in conformance with Metro-North system station standards and maintained the existing operating train speed limits on all tracks through the station area. Elements of the station designed by Jacobs include high-level concrete platforms, a new pedestrian overpass, stairways, elevators for full ADA access, and utility relocation.

James S. Craig
Rail Facilities

Education

- Project management courses: Risk Management; Managing Projects in Organizations; Project Leadership; Management and Communication; Scheduling and Cost Control; and Contracting for Project Management

Expertise in all facets of high speed passenger, transit, and freight railway construction, operations and maintenance.

Project Experience

AMTRAK, Philadelphia, PA, Director of Production Field Operations. Responsible for various Track production disciplines to include the Communications and Signaling department. Responsibilities include directing and estimating program work from Boston to Lorton Va. including Philadelphia to Harrisburg PA.

AMTRAK, Philadelphia, PA, Program Director Track. Responsible for Track Maintenance and construction for Amtrak's 135 and 150 MPH, electrified four track high speed passenger rail systems. Responsibilities included directing and estimating program work between Boston and Washington D. C. Also responsible for special track work interlocking work for the North East Corridor. Accountabilities included coordination of railroad engineering disciplines, signal and electric traction.

Long Island Railroad, Queens, NY, Engineer of Track Projects. Directed and coordinated the railroad's construction equipment performing programmed maintenance. Responsibilities include interlocking reconfiguration, grade crossing rehabilitation and yard expansion with conventional wood turnout and crossover technology.

Long Island Railroad Queens, NY, Engineer Of Track, Maintenance East. Directed the Track maintenance and construction activities for the East Region of LIRR. Labor force consisted of 200 employees.

AMTRAK Philadelphia, PA, Manager of Field Operations. Directed all facets of Amtrak's Switch Exchange and Special Construction operations, including associated planning, and scheduling. Installed 200 turnouts along Amtrak's NEC including site preparation, panel construction, and track re-configuration. Utilized a variety of specialized equipment performing 135 to 150 MPH high speed realignments, with signals and electrification.

AMTRAK Philadelphia, PA Engineer of Interlockings, Maintenance and Construction. Managed the operation of the Panel Renewal System on Amtrak's NEC employing specialized switch equipment. (1988-1991)

AMTRAK Philadelphia, PA. General Foreman of Rail Distribution/Reclamation. Responsible for the daily operations of Amtrak's rail trains. This included the SAFE distribution and removal of all C.W.R. on the Northeast Corridor. Also provided contract rail services to New Jersey Transit, Metro North Railroad, WMATA and the Long Island Railroads. (1985-1988)

AMTRAK Philadelphia, PA. General Foreman, Panel Renewal System. Supervise the operation of turnouts and crossovers during construction and installation. (1983-1985)

William J. Madden, PE
Rail Facilities

Education

- MS, Civil Engineering, 1994
- Juris Doctorate, 1986
- BE, Civil Engineering, 1982

Registration

- Professional Engineer: NY, NJ, PA, RI
- New York State Bar

William Madden has over thirty years of experience in the engineering, construction and contracting industry. He has worked for over twenty of those years in the rail industry and has particular expertise in managing very large capital construction contracts. He was the Program Manager for NYCT Shops, Yards and Bus Depots and then later served as Program Manager for Stations. The station program area was a $5 billion construction, rehabilitation and modernization effort that included such projects as Times Square, Grand Central and 72nd St on the Broadway Line. As a contractor, he acquired an expertise in vertical transportation and ADA compliance. Here his experience includes NYCT escalator replacement and the New Meadowlands Stadium. He also brings to his projects the legal background when dealing with contracting, code interpretation, change orders, permitting and risk assessment.

Select Project Experience with other firms:

Fujitec New York - Business Manager, 10/2002 to 10/2010
Manager of 85 projects worth $177 million with up to 200 employees.

- Traction/hydraulic elevators
- Transit/Commercial escalators
- Moving walks
- Elevator Data Acquisition Systems and security systems

RWKS Transit - Vice President, 10/2000 to 10/2002
Manager of 20 projects worth $75 million with up to 60 employees:
Tunnel rehabilitation (fans, lighting and fire protection with SCADA systems).

- Fan plant rehabilitation
- Electric substation rehabilitation
- Station rehabilitation
- Signals modernization

MTA NYC Transit - Program Manager, 09/1996 to 10/2000
Manager of 60 projects worth $1.92 billion with up to 220 employees with unified project management procedures focusing on goals of safety, quality, budget, and schedules.

- Station reconstruction/rehabilitation
- Elevator and escalator construction/replacements
- Fiber Optic Node Stations
- Ejector room construction

NYC Transit - Assistant Vice President/Program Manager, 02/1994 to 09/1996
Manager of 45 projects worth $975 million with up to 75 employees.

- Railway yard rehabilitation
- Rail shop construction/rehabilitation
- Bus depot construction/rehabilitation

NYC Transit - Project Manager, 05/1991 to 02/1994
Manager of 25 projects worth $225 million with up to 28 employees.

- Station rehabilitation/rehabilitation
- Fiber optic node enclosures
- Escalator/elevator installations
- Station lighting replacement
- Electrical distribution room up grades

NYC Transit - Administrative Engineer/Assistant Project Manager, 01/1988 to 05/1991
Night Project Manager and Administrative Engineer later promoted to Assistant Project Manager for Lexington Avenue Rehabilitation. Total Project cost was $275 million and directly employed 35 technical staff. This project included:

- Replacement of inter-lockings
- Signal rehabilitation
- Power rail replacement
- Tunnel lighting installation
- Fan plant construction
- Pump room construction
- Structural steel replacement

NYC Transit - Assistant Civil Engineer and Civil Engineer, 08/1982 to 01/1988
Survey team member promoted to crew chief of survey party, squad leader for design of track and switch layouts, and supervisor of construction layout and inspection.

Lewis O. Morgan, PE, PP
Rail Facilities

Education

- BS, Civil Engineering, 1980

Registration/Credentials

- Professional Engineer: NY, DE and PA
- Professional Planner, NJ

Lew Morgan has worked on a wide range of activities including project management and technical analyses on major transportation and infrastructure projects throughout the NY metropolitan area. The types of projects have ranged from feasibility studies to complete construction plans and specifications. Mr. Morgan also offers considerable expertise for the filing of environmental permits.

Project Experience

NJ TRANSIT, Phase II Preliminary and Final Design Lackawanna Cutoff Trackbed Restoration Project MOS-1, Morris and Sussex Counties, NJ. Project Manager for the design of the rehabilitation of 8 miles of abandoned freight railroad to provide a service to northern and western New Jersey. The line will connect to the existing Morris and Essex Line to provide train service to New York City. The first 4 miles of the project is scheduled for construction in November of 2010.

NJSEA and NJ TRANSIT, NJ Meadowlands Rail and Roadway Improvement Project, East Rutherford, NJ. Project Manager responsible for design and construction phase services to bring rail service to the NJ Sports and Exposition Authority complex. The total project construction cost was approximately $214 million which included the construction of 2.3 miles of new railroad, 2 miles of new roadway; 3,500 linear feet of viaduct; $20 million train station; 3 bridges; 2 pedestrian overpasses; 435,000 cubic yards of embankment; signal and communications systems; electric distribution systems; and, extensive water, sewer, communication, electric and gas utility relocation activities. The soils to the west of Berrys Creek are extremely soft with open water and wetlands in abundance. Jacobs developed design plans for large portions of the project alignment that would allow the contractor to build into these marsh/swampy areas from the top down thereby minimizing the limits of disturbance in the environmentally sensitive areas. In order to save time many of the viaduct components were fabricated and pre-cast offsite. Utilizing panelized construction techniques the contractor was able to build his structures efficiently from the top down in a leapfrog fashion across the marshy and open water areas.

MTA Metro-North Railroad Croton Harmon Yard, NY. Task Manager for civil engineering, for the $62 million expansion of Croton Harmon Yard. The project involved the redesign of the yard facilities south of the existing shops and modification of the tracks and supporting facilities to support MNR's diesel fleet servicing. A new yard master control system was designed to allow for remote control of the new yards from a refurbished tower.

NJ TRANSIT, Morrisville Train Storage Yard, Fall Township, PA. Project Manager for a 28-acre (11-hectar), $82 million train storage yard project for NJ TRANSIT, capable of storing 26 passenger trains for a total of 236 units. The project included an operational analysis covering yard functions and interface with main line operations; concept definition of the new yard, including layout of tracks, roads, structures, drainage, utilities, catenary, wayside and traction power, communications, and site mitigation measures required to construct the yard; and preliminary and final design of the selected alternative including a 12,000 square foot Crew Facility, 100 foot long S&I Facility, and a 1,040 foot long S&I Facility. The project also included the redesign of MY Interlocking, redesign of Morris Interlocking, the replacement of Conrail

Bridges 0.40 and 0.50 and the rehabilitation of Amtrak Bridge 58.16. An environmental assessment and permitting was also prepared as well as providing technical support during construction.

NJ TRANSIT, Passaic-Bergen DMU Project, Passaic and Bergen Counties, NJ. Responsible for the preparation of preliminary and final construction plans for the Passaic Bergen Diesel Multiple Unit (DMU) project. The project involves the restoration of passenger rail service within the existing New York Susquehanna and Western (NYS&W) right-of-way along a 10.2-mile corridor from Hawthorne to Hackensack. The project will upgrade existing NYS&W infrastructure, and restore two-track commuter rail service operated by NJ TRANSIT. The project would construct up to twelve passenger stations, two park-and-ride facilities, a vehicle maintenance facility, and improvements to track and signal infrastructure. The project also required the reconstruction/upgrade of four open deck and thru-girder bridges.

NJ TRANSIT, Main and Pascack Valley Line Right-of-Way Improvement Project, NJ. Responsible for the design of improvements on two NJ TRANSIT lines to increase capacity. Project elements included specifications for high-speed turnouts; expansion of the Suffern Yard; and double tracking of a 1.7-mile (2.7-kilometer) single-track segment that included two through girder bridges and extensive retaining walls, five passing sidings, and a 2-mile-long (3.2-kilometer) freight siding with industrial side tracks.

North Avenue Improvements Project, Elizabeth, NJ. Responsible for the preparation of preliminary and final construction plans for improvements to the North Avenue Corridor serving the Kapkowski Road and Port Elizabeth area. The project involved the construction of a new bridge at North and Dowd Avenue and 3.5-miles of interconnecting roadway construction with Ramps to 1&9 and Interchange 13A. The project also involved the widening of three other ramp bridges to accommodate the new roadway geometry.

NJ TRANSIT, Northern New Jersey Bus Maintenance Facility, Clifton, NJ. Civil Task Leader for the design and construction of a new 265,000 square foot Bus Maintenance Facility for NJ TRANSIT's Northern Bus Fleet. Responsibilities included site grading, drainage, and permits, oversight of geotechnical work, and management of various subconsultants for surveying, soil borings, environmental testing, and wetlands delineation.

Southern New Jersey Light Rail Transit System. Prepared site plans for 20 new passenger stations along a 33-mile light rail corridor. The station design elements included the geometric layout, grading and drainage design for station platforms and parking facilities. The project contained several large park-n-ride areas ranging from 300 to 800 parking spaces. Additional tasks included coordination with other disciplines for station architecture, lighting and electrical design, and structural design of the station platform and foundation systems.

Irvine Turner Traffic Calming Project, Newark, NJ. Responsible for the development and design of traffic calming measures for a busy 1.1mile section of Irvine Turner Boulevard including 8 intersections. Responsibilities included cost control, project management, initial and final construction plan preparation of existing roadways, and client and subconsultant coordination.

Michael Moskowitz, PE
Rail Facilities

Education

- MS, Civil Engineering, 1996
- BSCE, Civil Engineering, 1980

Registration/Credentials

- Professional Engineer: NY, NJ and LA

Mike Moskowitz has many years of commuter railroad and bridge engineering experience, as well as experience in construction, maintenance and repair of over 120 commuter railroad stations as a Superintendent of Stations and military contingency engineering and programming. He also has managerial experience in the operation of station maintenance for Metro-North Railroad and is a Certified Building Code Compliance Officer in New York State.

Project Experience

MTA Long Island Rail Road, Woodhaven and Queens Boulevard Bridges Rehabilitation, Queens, NY. Project Manager and Senior Structural Engineer for the design and construction phase services (CSS) for the rehabilitation of the Queens Boulevard and Woodhaven Boulevard Bridges in Queens. Responsibilities include review and update of existing rehabilitation design concepts, drawings, specifications, and calculations, force account planning and coordination, and construction phasing, to produce the bid documents necessary for construction. Developed an integrated Force Account/3rd party construction sequence utilizing an hour-by-hour track outage and phasing for the bridge rehabilitation sequencing.

MTA Long Island Rail Road, Broadway and 150th Street Bridges (four) Rehabilitation: Project Manager for the design and construction phase services (CSS) for the rehabilitation of these four bridges in Queens. Responsibilities include review and update of existing rehabilitation design concepts, drawings, specifications, and calculations, force account planning and coordination, and construction phasing, to produce the bid documents necessary for construction.

MTA Metro-North Railroad, Development of Design-Build Documents for New Haven Line Stations. Project Manager for the development and conceptual level design for all eight of Metro North's stations located on the New York State side of the New Haven line. Led a team of architects, civil, structural, and electrical engineers to develop conceptual designs to provide solution sets for the rehabilitation of these 8 stations. Work included structural improvements, ADA enhancements, architectural upgrades, elevator installation and electrical upgrades. Promulgated and championed efforts to involved construction contractors into the design, and particularly the construction estimating process.

MTA Metro-North Railroad, Inspection and Load Rating of 10 New Haven Line Bridges. Assumed duties as Project Manager for the inspection of 10 overgrade bridges from MT. Vernon East, to Harrison, New York. The ratings for the bridges are for automotive vehicles, utilizing both Load Factor Rating, and working stress rating criteria. Utilized a prioritized criteria for programming improvements against a fixed repair/construction budget.

MTA Metro-North Railroad, Station Improvement Designs for Croton Harmon and Peekskill Stations: Assumed duties as Project Manager for the development of scope, schedule, and budget and the development of construction documents for the upgrading of these two stations. The work is designed to be constructed with little to no impact on the operating railroad. Also performed construction phase services.

MTA Metro-North, Undergrade Bridge Inspections and Load Rating Program, and Emergency Repairs, New York, NY (1998-2005): Project Manager for the inspection, rating, and

prioritization of two major capital improvement programs for both the East and West of Hudson lines. He managed and was involved with the inspection, rating, and prioritization of a total of over 360 undergrade bridges in New York State. Also managed the design efforts for repairs to multiple bridges utilizing both third party contractors, and Force Account forces. Acted as Team leader for the longest structures including the Moodna Viaduct (4000' trestle) in Salisbury Mills, NY, utilizing "Hi-Rope" access techniques, and the Woodbury viaduct (880 ft trestle) located in Woodbury, NY. Both historic structures are over 100 years old.

MTA Metro-North Railroad, Commuter Railroad Station Design, Cortlandt, NY: Project Engineer responsible for the concept and preliminary designs combining two existing commuter rail stations with one new station. Personally developed conceptual layouts and drawings for the geometry and parking capacity of the vacant land plot. Supervised required surveys, property acquisition, and interface with municipal officials. Also responsible for establishing metes and bounds, adjacent right-of-way geometry, and NYSDOT format acquisition maps for MTA's Real Estate Department.

MTA Metro-North Railroad, Superintendent-Stations, New York, NY: The Lead Operating Department Engineer responsible for maintenance and repair of all Metro-North outlying passenger stations (120). Directed management staff and 40 craft personnel in daily upkeep of the station buildings, platforms, facilities, utilities, stairs, overpasses, and 58 elevators. Prioritized Capital Program requirements for total plant state of good repair. Developed scopes and track outage coordination schedules for all construction related to stations. Developed, and coordinated force account scopes, schedules, and budgets.

Norfolk and Western Railroad Bridge Design, Cleveland, OH: Lead Designer for substructure design for a railroad bridge over the Cayahoga River. Prepared plans, specifications, and estimates for this through girder steel bridge. Also checked all superstructure calculations. Reviewed geotechnical engineer field reports to develop substructure system of pile bents.

MTA New York City Transit, Design Services for the Station and Structural Rehabilitation of Ten Stations on the White Plains Road Line (IRT), Bronx, NY. Deputy Project Manager for the design and rehabilitation of ten NYC Transit stations, plus 4.1 miles of overhead line structure. Responsible for coordinating plans, specifications, and estimates for this project. Estimated construction value was $150 million. Lead Coordinator for seven subconsultants and representatives for joint venture consultant. Also lead task leader for station structural design work, including elevator structures, as well as the "dropped" station design (attached from the overhead structure above). Developed unique "raised floor" precast panel system for the new station where the panels were lifted into place from the street level.

Igor Maevski, PhD, PE

Tunnel Facilities – Mechanical/Electrical – Project Manager

Education

- Ph.D., Mechanical; Tunnel Ventilation, 1992
- MS, Civil Engineering, 1984

Registration

- Professional Engineer in NY, NJ, and WA:

Employment History

1996-Present – Jacobs
1994-1996 - Parsons Brinckerhoff
1984-1994 - VNIGGS

Dr. Maevski is nationally recognized as a specialist and authority in defined and applied solutions, including technical guidance for transportation and facilities ventilation design, and has authored numerous articles on tunnel ventilation. He is experienced in the research and design of heating/ventilation and air conditioning systems for roadway, railway, and subway tunnels, stations, and industrial plants.

Project Experience

PANYNJ, Mechanical Engineering Services – Design of Fire/Smoke Management and Tunnel Ventilation Systems as Requested on a Call-In Basis during 2007-2009. ***Task 1. Dermot Hudson Mews Overbuild Project*** – Project Manager and Team Leader responsible for review of the Tunnel Ventilation Design Criteria, studies, and design performed by other Consultant. Performed CFD analysis of several tunnel ventilation alternatives, including fixed fire suppression system using a water mist technology. As the result, Jacobs made recommendations on tunnel ventilation design, which allowed substantially (more than twice) to reduce the required number of tunnel ventilation fans and vent structures achieving the desired safety performance. We revised the ventilation scheme that was accepted by the Consultant and the Authority. The proposed scheme allowed for substantial cost savings. ***Task 2. Confidential Project Review*** –.Reviewed the preliminary engineering drawings and results of the analyses; provided necessary details and information to support the Port Authority with the decision-making and evaluation of the proposed alternatives. ***Task 3. WTC Hub PATH Train Downtown*** – Review of the Concept of Smoke Management proposed by the Consultant; and of the tunnel ventilation conceptual drawings and results of the analyses; participated in the meetings with the Port Authority. Ensured that the plan meets the Port Authority's requirements for safety. ***Task 4. Trans Hudson Expressway (THE) Tunnel Project*** – Review of the station and tunnel emergency ventilation contract drawings, reports, and results of the analysis, specifications, and participated in the project meetings to ensure conformity with all technical requirements.

PANYNJ, Holland Tunnel, NY and NJ. Senior Mechanical Engineer responsible for providing expert professional services for the rehabilitation of the electrical and mechanical components of the Holland Tunnel Ventilation System located within four ventilation buildings. Prepared all documents required for a conceptual design package, which included reports, drawings, construction, life cycle cost estimates, and schedules for the proposed rehabilitation. Also performed rehabilitation design of the ventilation systems of several existing tunnels under similar phasing conditions.

MTA Triborough Bridges and Tunnels, Brooklyn Battery Tunnel Design and Construction Support Services for Project BB-45 - Supply Fan Replacement, Switchgear Replacement, and Manhattan Underground Exhaust Building (MUEB) Fan Upgrade and Repairs, NY. Project Manager and Team Leader responsible for the project performance of all of the inspection, fan testing, analyses, and design associated with the replacement/rehabilitation of 27 supply fans and fire hardening of the MUEB. Investigation work included fan inspection; fans, motors, and building structure vibration tests; motor tests; damper inspection and tests; fan performance aerodynamic tests and analysis; environmental inspection and life cycle cost analyses. Prepare 40%, 70%, 100% designs, perform constructability reviews and bid package review, and perform construction support services.

Igor Maevski, PhD, PE
Tunnel Facilities – Mechanical/Electrical – Project Manager

Massachusetts Highway Department, I-93 Central Artery/Tunnel Mechanical and Electrical Systems Contract D020B, Boston, MA. Senior Mechanical Engineer responsible for performing Computational Fluid Dynamics (CFD) analysis of air flow distribution in the most complicated air duct area. Created sixteen models, most of which included all ventilation buildings. Propose technical recommendations on ventilation systems modifications based on the results of the CFD modeling. Performed SES analysis for seven ramps, and analyzed the fire emergency and idle traffic conditions. Project included the design for depression of the city's existing I-93 artery into cut-and-cover tunnels and the interface with the existing I-93 double deck viaduct in Charlestown, MA. Developed the mechanical/electrical design for the Fort Point Channel Crossing – the first concrete immersed tube tunnel ever constructed in the U.S. This design covered full mechanical and electrical systems for the new tunnel and boat sections. Primary design elements included tunnel ventilation, tunnel drainage, tunnel fire protection, power distribution, as well as tunnel, boat section, ramps, and exterior roadway lighting.

Texas DOT, LBJ Tunnels Procurement Engineering – Road Tunnel Ventilation Analysis, Dallas, TX. Tunnel Ventilation Team Leader responsible for the road tunnel ventilation analysis under normal operation, congested traffic, and in case of fire emergency. Performed Subway Environmental Simulation (SES) analysis for different ventilation alternatives and tunnel configurations, and Mobile 6 vehicle emission simulations. Produced a set of drawings for conceptual design of tunnel ventilation and for cost estimates. To mitigate community concerns with regard to elevation, right-of-way, noise and traffic disruption. Provide technical support for TxDOT to propose that two 1.5 to 1.9 mile (or longer) one-way tunnels be constructed under LBJ Freeway – one being a mined tunnel, the other a cut-and-cover tunnel.

Washington DOT, SR99 Bored Tunnel Architectural Services, Alaskan Way Viaduct. Team Leader responsible for Tunnel Ventilation and fire-life safety reviews, including changes to technical requirements, specifications, and mechanical rooms' layout for service portal buildings. As part of the Alaskan Way Viaduct program, WSDOT needs to provide maintenance and operations facilities and ventilation structures at the south and north access points of the SR99 Bored Tunnel. Managed the civil design and fire-life safety review and provided expertise for the two portal facilities. The mechanical scope includes evaluation of space requirements and ventilation and egress connections between the ventilation buildings and tunnel egress corridor. The project entails the replacement of the two-mile long, six to eight-lane double-decked viaduct and seawall structure, which was built in the 1950's and is currently carrying over one-quarter of Seattle's north-south traffic through downtown. Jacobs provided project management; feasibility studies; EIS documentation and support; TS&L studies; preliminary design (structural, civil-roadway, and utility engineering); scheduling; cost estimates; risk assessment; value engineering; and design-build document development on this project.

Florida DOT, Design, Construct, Finance, Operate, and Maintain the Port of Miami Tunnel, Miami, FL. Mechanical Design Team Leader responsible for final design and analysis of tunnel ventilation, fire protection and fire life safety systems, and drainage. Jacobs, as part of the MAT Concessionary led by Bouygues is responsible for the final tunnel design of the design, build, operate and maintain POMT project.

NYCDOT, Route 9A Reconstruction Segment 1, Battery Park Underpass Ventilation Study. Project Manager designed the tunnel ventilation and fire protection system for the rehabilitation and reconstruction of tunnel in Lower Manhattan. Performed tunnel ventilation analyses and prepared a report on required changes to existing ventilation system to be made to meet the NFPA 502 standard.

Nick Chen, PE
Tunnels

Education

- MS, Civil Engineering, 1983
- BS, Civil Engineering, 1978

Registration/Credentials

- Professional Engineer: PA, RI, TN, KY, MA

Nick Nick Chen specializes in structural engineering for underground structures, particularly deep excavations, tunnels, and shafts. Additionally, he specializes in soft ground and hard rock tunnels, deep excavation supports, cut-and-cover tunnels, bored tunnels, mined tunnels, shafts, caverns, and inspection and rehabilitation of existing tunnels. His understanding of the interrelationship between geotechnical elements and their effects upon tunnel and underground structures is well recognized within the tunneling industry. He currently serves as a Committee member for the ACI 506 Sub-committee Underground Shotcrete, Chair of the New Austrian Tunneling Method (NATM) Technical Committee for American Underground Association (AUA), and Director of the AUA Board of Directors.

Project Experience

Port Authority of NY & NJ, Holland Tunnel Seismic Vulnerability Study, New York, NY. Tunnel consultant, provided seismic evaluation criteria for this study, including ground motion time histories and their associated response spectra and the structural performance criteria. A two-level seismic evaluation that is consistent with the New York City seismic hazard design guidelines for bridges is adopted. The first level is the Functional Evaluation Earthquake (FEE), which corresponds to a 500-year reoccurrence seismic event, and the second level is the Safety Evaluation Earthquake (SEE), which corresponds to a 2,500-year reoccurrence seismic event.

NJ Transit, Bergen Tunnel Rehabilitation, Hoboken, NJ. Tunnel consultant, performed an independent analysis for a revised tunnel lining system (to enlarge the existing tunnel section) because of the actual ground condition encountered in the field by sequential excavation and shotcreting method. The existing tunnel lining is made of brick arch. The original proposed tunnel lining system includes 6" shotcrete and lattice girder as initial support, with 12" reinforced cast-in-place final lining. The revised tunnel lining system includes shotcrete and cast-in-place reinforced concrete lining only, which results in construction cost savings.

Port Authority of Allegheny County, North Shore Connector Project/Allegheny River Crossing Tunnel, Pittsburgh, PA. Tunnel engineer, working as the PM/CM for the Authority, reviewed the Alternative Tunneling Methods for the Allegheny River Crossing from Gateway Station to PNC Station, including steel immersed tube tunnel, cut-and-cover tunnel, and TBM bored tunnel. Lead the review of 30% preliminary design documents and tunnel design criteria.

South Bay Tunnel Outfall Project for the City of San Diego, CA. Senior structural/tunnel engineer; provided 95% contract package review of this CSO tunnel and shaft contract package (soft ground tunneling), including the reviews of constructability, scheduling, designs, and specifications. The tunnel is situated in soft ground excavated by Earth Pressure Balance (EPB) machine with one-pass bolted and gasketed precast concrete segmental lining.

Tren Urbano Carolina Extension, San Juan, Puerto Rico, for the Puerto Rico Highway and Transportation Authority. Tunnel consultant; provide tunnel evaluation and conceptual cost estimate for one of the proposed alternatives. This alternative is an extension of the existing Tren Urbano heavy rail system utilizing the existing Rio Piedras Station as the western terminal.

Nick Chen, PE
Tunnels

Existing spur tunnels, located to the south of the station, have been constructed in the original system for the planned expansion. This alternative requires the extensions of these spur tunnels as the alignment continues to the east past the heavily congested Rio Piedras Station area. The existing spur tunnels, 22' oval shape cross section, were designed and constructed by the NATM principles. The proposed tunnel (soft ground in congested urban setup with high groundwater table), 2,500-ft in length each bore, would be designed and constructed with similar principles as that of the original system. Its lining system includes shotcrete, lattice girder, and self drilled grouted steel pipe spiles as its initial lining and cast-in-place concrete as its final lining. The waterproofing system is through waterproofing membrane installed between the initial lining and the final lining.

APM Tunnel Study for Hartsfield-Jackson Atlanta International Airport, Atlanta, GA. Tunnel consultant, provided a conceptual level planning for a proposed APM tunnel connecting the proposed International Arrival Terminal (IAT) and the proposed International Arrival Building (IAB) at Hartsfield-Jackson Atlanta International Airport, Atlanta, Georgia. Two tunnel alternatives are included in this study. The tunnel lengths of Alternative 1 and Alternative 2 are approximately 6,000 ft, to be constructed by EPBM, and 945 ft, to be constructed by NATM, respectively. The subsurface condition includes fill, dense silty sand, weathered rock and sound rock. The elevation of the top of weathered rock is erratic. It is expected that the tunnel excavation will encounter mix-ground condition.

West Virginia Dept. of Transportation, Wheeling Tunnel Inspection and Rehabilitation, Wheeling, West Virginia. Tunnel consultant; this project involves the inspection and repair/rehabilitation of the existing Wheeling Tunnel constructed in 1960s. It is a twin-bored two-lane highway hard rock tunnel, about 1500 ft long for each bore with horseshoe cross section of about 22.5' high and 29.5 ft wide. Assist, provide, and consult the repair strategies and priority of the tunnel deficiencies, including the primary groundwater infiltration through construction joints, concrete cracks and spalling, falling tiles, and the upgrade of the fire and life safety components of the tunnel.

TRB, Transit Cooperative Research Program (TCRP) Project J-10G, Assessing and Improving Rail and Highway Tunnel Operational and Structural Security and Safety. Panel member, prepared research project statement, select the research team, monitor the research process, and review and assist the publication of the research report. The objective of this research is to develop safety and security guidelines for owners and operators of transportation tunnels to use to identify: (1) critical locations; (2) potential structural improvements; (3) operational countermeasures; and (4) deployable, integrated systems for command, control, communications, and information. The guidelines will be applicable across the spectrum of both accidental and intentional threats.

Massachusetts Turnpike Authority, GEC Contract, MA. Tunnel consultant, assisted the Work Task of evaluating the effectiveness of MTA existing corrosion protection systems and facilities, including cathodic protections and stray current tests for the following structures: Ted Williams Tunnel, Central Artery Tunnel, and Fort Point Channel Tunnel.

Robert Harvey, PE
Tunnels

Education

- BS, Electrical Engineering, 1994

Registration/Licenses

- PE in NY, NJ, PA, TX, FL, OH, WA, VA, SC, CO

Robert Harvey is a versatile lead electrical engineer specializing in electrical design for transportation projects who has been involved with all aspects of project development, from conceptual and detailed design through construction management, field inspection, project management and final commissioning. His expertise includes medium and low voltage distribution, motor controls, emergency power design, indoor, outdoor and tunnel lighting design, process controls, instrumentation selection and specification, HVAC and other building control systems, communications design, and life safety systems.

He is a Senior Member of the Instrumentation, Systems and Automation Society (ISA), a Senior Member of the Association of Energy Engineers (AEE), a full member of the Institute of Electrical and Electronics Engineers (IEEE) and the Illuminating Engineering Society of North America (IESNA) and serves as a Full Member of the IESNA ANSI/RP-22 (Tunnel Lighting) subcommittee.

MTA Bridges and Tunnels, Brooklyn Battery Tunnel BB-45, Brooklyn, NY. Lead Electrical Engineer responsible for design of replacement switchgear, motor control centers to replace existing fan motor controllers, 4160v transformers and 4160v feeders and UPS's for tunnel lighting. Work included performing detailed survey of existing conditions and providing full power systems analysis.

Virginia Dept of Transportation, Hampton Roads Bridge Tunnel Switchgear Replacement, Norfolk/Hampton, VA. Lead Electrical Engineer responsible for design of replacement medium voltage (15kV) and low voltage (480V) substations and switchgear for two shores, two bridge and two island locations. Design includes new medium voltage (15kV) bridge and tunnel feeders sized for all required tunnel loads, especially emergency tunnel ventilation. Two 2.25 MVA medium voltage (15kV) emergency generators were designed to also accommodate required loads associated with safe operation of tunnel systems. Extensive coordination with utilities was performed especially with respect to closed transition operation of generators. Responsible for all short-circuit analysis, load studies, and other electrical system reliability analysis for electrical equipment to form basis of design. Estimated Project Cost: $40 million

MTA Bridges and Tunnels, Brooklyn Battery Tunnel Switchgear Replacement, Brooklyn, NY. Lead Electrical Engineer responsible for design of replacement low-voltage switchgear for entire tunnel. Electrical system is divided among three buildings, each with multiple sets of double-ended 2000A or 4000A switchgear sets with automatic transfer capabilities. In addition, design includes all replacement conduit and wiring to loads fed from switchgear including 4160V feeders to remove ventilation building. Also responsible for multiple UPS design to handle uninterruptible power source to all tunnel lighting. Responsible for all short-circuit analysis, load studies, and other electrical system reliability analysis for electrical equipment to form basis of design.

MTA Long Island Rail Road, Jamaica Central Control (JCC) Building Jay, Hall and Dunton Interlocking, Jamaica, NY. Lead Electrical Engineer responsible for design of all power, lighting, communications, security, and fire alarm design for architectural fit-out of control room to replace three existing towers. Work included careful integration of power and communications requirements

of train control system equipment procured under separate contract into the new control room and associated spaces such as electrical and communications room. Designed full emergency and UPS power distribution system and all above-ceiling and below-raised-floor power and communications cabling to each operator workstation. Designed control room lighting scheme which included use of fully dimmable LED task lighting to supplement normal room lighting. Provided layout of cable tray and additional cable management to all communications equipment and rooms. Responsible for design of Lenel-based security design including CCTV and keyboard controllers with monitors and DVRs.

State University Construction Fund, SUNY College of Technology at Canton, Replace Electrical Substation and Perform Load Study, Emergency Power Study, Canton, NY. Lead Electrical Engineer responsible for investigation of existing electrical systems including the existing campus sub-station, design of new switch gear and standby power systems. Perform load studies and standby power studies for the campus.

MTA Metro North Railroad, Cortlandt Station Improvements, Cortlandt, NY. Lead Electrical Engineer responsible for complete design of all power and lighting for extensive additions to commuter train station. Work includes coordination of new electrical service to facility, lighting calculations and design of station parking lot and plaza lighting, and production of demolition and construction documents, drawings and specifications.

MTA Metro North Railroad, Croton/Peekskill Stations Improvements, Croton/Peekskill, NY. Lead Electrical Engineer responsible for electrical design of power distribution for various improvements around the stations including addition of heat-tracing, replacement lighting and passenger elevator improvements.

MTA Long Island Rail Road, Seaford Station Platform Replacement, Queens, NY. Lead Electrical Engineer responsible for complete design of all power and lighting for replacement of platform at commuter train station. Work included coordination of new electrical distribution to platform equipment including new lighting, public address and passenger information systems. Work included lighting and electrical connected/demand load calculations and production of demolition and construction documents, drawings and specifications.

ConRail, Oak Island Yard Improvements, Newark, NJ. Lead Electrical Engineer responsible for all lighting and power distribution for new rail yard including overhead and underground electrical service and distribution, transformer specification and selection, medium and low voltage power distribution panel boards and electrical construction details in accord with AREMA standards.

Private Client for Ohio Dept of Transportation, WH Sammis Roadway Tunnel Lighting Replacement. Lead Electrical Engineer responsible for design of replacement for low pressure sodium tunnel lighting with high pressure sodium. Work included field investigations to determine existing lighting conditions using LSEQ method per IES standards. Full tunnel lighting calculations, renderings and animations provided using AGI32 software were used in evaluation of various alternatives. Final design included all power distribution and circuiting for new tunnel lighting. (2009. Estimated Project Cost $1.5 million)

Kai Kang, PhD, PE
Tunnels

Education

- PhD, Mechanical Engineering, 2004
- MS, Mechanical Engineering, 1999

Registration/Credentials

- Professional Engineer: NY and TX

Dr. Kang has extensive experience in the in-depth design and analysis of the fire life safety, ventilation systems of major roadway, and transit tunnels. He has taken on technical leading roles in many large transportation projects as well as managed numerous projects in the capacity of fire life safety and ventilation. Dr. Kang is especially familiar with document control, quality control, and assurance procedures. For more than ten years, he has been practicing computational fluid dynamics (CFD) and published countless papers on ventilation and fire safety design in tunnels and stations. Dr. Kang serves as voting members on the ASHRAE Technical Committees of "Enclosed Vehicular Facilities" and is currently the Secretary on the committee of "Control of Fire and Smoke".

Project Experience

MTA Bridges and Tunnels, TBTA Brooklyn Battery Tunnel, Design and Construction Support Services for Project BB-45, Supply Fan Replacement, Switchgear Replacement and Manhattan Underground Exhaust Building (MUEB) Fan Upgrade and Repairs, Brooklyn, NY (2009). Senior Mechanical Engineer responsible for conducting CFD modeling and design calculations for the use of a water mist fire suppression system on the longest vehicular tunnel water crossing in the United States. Prepared design report for the 40% design submittal and assisted in the preparation of fan vibration test reports and responses to Client's comments.

Port Authority of NY & NJ, Design Service for PATH Harrison Station, NJ. The PATH Station at Harrison, NJ, is one of the 13 stations that make up The Port Authority Trans-Hudson (PATH) rail system. As part of the PATH Capacity Expansion Capital Program, provision is provided to upgrade the station to 10-car platforms from the existing 8-car platforms. In addition, the station is being substantially re-developed with four new station houses and platform canopy structure for the anticipated development in the area. Urban planning and sustainable solutions are also being considered for the Harrison Station Replacement Program. As Project Manager and Lead Engineer in fire and smoke management, working with the Authority's Architectural and Engineering Design Division, the scope of work is to provide engineering design support in fire life safety and smoke management for Harrison Station. NFPA-130 (2007) was adopted as the design standard; and work includes review of the project design document, establishment of analysis criteria, and specification of design requirements for fire and smoke management. Kai is currently working with the Authority on smoke ventilation design of the platform canopy and smoke management for the four station house buildings.

Port Authority of New York and New Jersey, PATH System Tunnel Ventilation, New York, NY. Tunnel Ventilation Engineer. Conducted detailed field survey for all of the PATH stations and tunnels; developed the computer model using the subway environment simulation (SES) computer program. Performed calibration and sensitivity analysis for model validation, using historical field fan reach test data.

Port Authority of Allegheny County, Pittsburgh North Shore Connector Light Rail Project, Pittsburgh, PA. Lead Mechanical Engineer responsible for review of the mechanical design for stations and tunnels, conducted comprehensive review to ensure the design meets the code and the project requirements. As an on-going effort, working with the design engineers to evaluate design alternatives and the mitigation measure.

Kai Kang, PhD, PE
Tunnels

Trans-Link Dunsmuir Tunnel Emergency Ventilation Control Upgrade, Vancouver, Canada. Project Manager in Fire Life Safety and Ventilation. Responsible for evaluation of emergency ventilation control strategy using subway environment simulation (SES) computer program, investigation of existing station and tunnel conditions, prepared engineering design report for the emergency ventilation control. Managed internal assignments, coordinated peer review and team presentation to Client. The Dunsmuir Tunnel consists of three stations and a "stacked" tracks configuration for the SkyTrain system.

MTA New York City Transit, Fulton Street Transit Center, New York, NY. Lead Tunnel Ventilation Engineer. Assessed the impact of station environment on the proposed transit center such as cooling and heating load and related design issues; evaluated the effectiveness and feasibility of platform spot cooling for subway stations connecting to transit center; studied station fire and smoke control strategies.

Evergreen Light Rail Transit (LRT), Trans-Link, Vancouver, Canada. Project Manager in Fire Protection Engineering including Tunnel Ventilation. Developed scope of work, including code analysis, tunnel fire strategy and means of egress for multiple train scenarios. Designed and analyzed ventilation concepts of portal jet fans using SES. Made equipment selection and set ventilation modes. Deliverables include design analysis, code compliance report and conceptual design of tunnel ventilation and alternatives. (2006)

Bay Area Rapid Transit (BART), San Jose Extension, BART / VTA, CA. Project Manager in Fire Life Safety and Smoke Control Design. Led smoke control study for Alum Rock Station; Evaluated emergency ventilation strategies using tunnel ventilation fans, conducted CFD simulations and tenability analysis to ensure that in the event of a fire, the NFPA-130 requirements can be met. As part of the life safety assessment, recommended station ventilation modes and operational considerations of the emergency ventilation systems; Reviewed design basis for system wide tunnel ventilation design and fire analyses; Reviewed options for cross-passage spacing and alternatives of mid-tunnel ventilation shafts; Assisted in the evacuation modeling (STEPS & NFPA-130) for a mid-tunnel train fire. Deliverables include reports and presentations.

Texas DOT, Woodall Roger Deck Plaza, Dallas, TX (2009). Lead Tunnel Ventilation Engineer responsible for the tunnel ventilation system design and documents, and for the CFD analysis. Longitudinal tunnel ventilation system using jet fans is implemented for the project. The Woodall Rogers Park in downtown Dallas TX is to be built over the existing Woodall Rogers Freeway and offers multi-fold benefits to the residents and the development of the downtown area. The park will be built on top of a deck that will cover the Woodall Rogers Freeway from St. Paul to Pearl Street.

MTA New York City Transit, Second Avenue Subway, MTA New York City Transit, New York, NY. Senior Mechanical Engineer responsible for the preparation of preliminary engineering report for station smoke management design. Reviewed CFD simulations, fire engineering calculations, station evacuation and structure fire protection assessmentsand investigated and drafted report on the egress usage of elevator and relevant code compliances; conducted site survey of tunnel sections and fan rooms of the existing subway system; reviewed field measurement data for train braking heat release; and the effectiveness of the trackway exhaust system in station environment control.

Greg Zdenek
Tunnels

Education

- *MBA, Business Administration, 1998*
- *BS, Electrical Engineering, 1990*

Greg Zdenek is experienced in the management and operation of an electronic engineering/system integration business focusing on mission critical and life safety applications. He is the Department Head for our New York office's mechanical and electrical group, which includes directing engineering, software and system integration projects.

Project Experience

Virginia Dept of Transportation, Hampton Roads Bridge Tunnel Switchgear Replacement, Norfolk/Hampton, VA. Technical lead for the communication and SCADA design. Early in the project, he directed field work and developed an existing condition's report as well as a conceptual design report. He is involved in developing design plans and engineering specification for construction. Project involved design of replacement medium voltage (15kV), low voltage (480V) substations, generators and switchgear. In addition existing ventilation and electrical SCADA system is to be upgraded. The project is currently in the design phase.

MTA Bridges and Tunnels, BB 15A, Brooklyn Battery Tunnel Control Room Modernization, New York, NY. Project Manager responsible for the initial development and scoping, preliminary and detailed design, as well as construction support services for the modernization of the Control Room of the Brooklyn Battery Tunnel. The design was conceived to identify a uniform upgrade path to enhance the mechanical and electrical systems of the Tunnel. The conceptual design allows for all critical systems in the tunnel to be monitored and controlled from a single user interface (SUI). This means that TBTA personnel will be able to view all critical systems at a single workstation allowing them to respond to emergencies quicker, work more efficiently, and require less training. The project included the design of a temporary control room using a trailer, the demolition and retrofit of the existing control room, the addition of seventy two CCTV units, a fully redundant 1Gbsec Ethernet backbone wide area network and the optical communication cable plant to support the system. In addition to provide standard design services, Jacobs was tasked with performing the complete programming, integration and startup of the contractor supplied components. Jacobs developed the overall strategy and architecture to help the TBTA identify, prioritize and specify improvements to these systems. Jacobs recommended a level of integration for each sub-system investigated ranging from simple monitoring to complete remote control.

NYS Department of Transportation (Region 11), Western Queens ITS System Software and Integration, New York, NY. Leading Technical Specialist managing a group of software developers who built a system which allows operators to monitor and control sensors and signs throughout the Western Queens region. The system allows operators at the JTOC (Joint Traffic Operation Center) to monitor critical traffic data such as speed, volume and occupancy in real time. In addition, the system he helped architect is being used to coordinate the messages displayed to the traveling public through the Variable Message Signs throughout the region.

Pennsylvania Dept. of Transportation, District 8-0 Harrisburg ITS, Harrisburg, PA. Jacobs and Wellington Power were awarded a design-build contract for the installation of various ITS devices in the field, and a complete upgrade of the Traffic Management Operation Center. Mr. Zdenek led the design, procurement, installation and integration of all equipment installed in the

traffic management center. The project included performing a design of the new operation command and control center; communication backbone; video encoding; T1 bridges; switches and routers; two servers and four workstations; custom consoles; a 6' by 9' video wall; network video recorder (NVR) as well as the Traffic Management Center computer network.

Florida Department of Transportation, Turnpike Enterprise, Maintenance and Traffic Operations Engineering Management Consultant Contract, Statewide, FL. Led the peer-to-peer committee to review the existing operations of the Florida Turnpike ITS operations. Interviewed the staff at both Orlando and Pompano Beach Traffic Management Centers (TMC) and conducted a thorough investigation of the operation. The findings included potential flaws and possible solutions in the existing system resulting in improvements that have reduced data loss, network issues, and poor communication with critical field equipment such as VMS.

MTA Bridges and Tunnels, Assignment #12, Control Room Modernization, New York, NY. As Task Manager, supervised the development of the scoping and conceptual design for the modernization of the Control Room of the Brooklyn Battery Tunnel. The work included the development of the scoping and conceptual design for the modernization of the Control Room of the Brooklyn Battery Tunnel. The design was conceived to identify a uniform upgrade path to enhance the mechanical and electrical systems of the Tunnel. The conceptual design allows for all critical systems in the tunnel to be monitored and controlled from a single user interface (SUI). This means that TBTA personnel will be able to view all critical systems at a single workstation allowing them to respond to emergencies quicker, work more efficiently, and require less training. In addition, with the real-time data provided by the SUI, maintenance personnel will be able to more quickly identify and correct problems. Jacobs (then Edwards and Kelcey) developed the overall strategy and architecture to help the TBTA identify, prioritize and specify improvements to these systems. Jacobs recommended a level of integration for each sub-system investigated ranging from simple monitoring to complete remote control.

Philadelphia International Airport, Automatic Temperature Control System Upgrade. As Project Manager, provided design services to the Philadelphia International Airport (PHL) for a control systems upgrade. PHL had issues because there were multiple control systems at which are incompatible with each other, creating a maintenance burden. Systems affected by this project include the rooftop HVAC units, indoor central station air handlers, Central Utility Building (CUB) pumps and equipment. Mr. Zdenek led the design of a control system replacement for approximately 129 rooftop units including new direct digital control panels, control valves, temperature sensors, damper actuators, dampers, smoke detectors, freezestats, pressure switches, CO2 and Nox as required, and communication link to the Airport Central Utility Buildings. The project upgraded the control system at the CUB and Satellite Thermal Plant including the upgrade of existing chiller/boiler control panels, new gateways between existing chiller/boiler control panels and ATC system, isolation control valves for chillers, flow meters, temperature transmitters and load management system.

Marcos Loizias, PE
Bridges - Project Manager

Education

- MS, Structural Engineering, 1983
- BS, Civil and Environmental Engineering, 1981
- Construction Management Diploma, 1989

Registration/Credentials

- Professional Engineer: NY #[redacted] NJ#[redacted] CT, PA, WV, MO, KY, OH, VA, FL, NC, SC, MA, IL, TX, AZ, DE, ME, GA, WA

Employment History

1998-2004 - Jacobs
4/1998-9/1998 - Rust Environmental & Infrastructure
1989-1998 - HNTB
1988-1989 - Parsons Brinckerhoff
1983-1988 - HNTB

Marcos Loizias has over 25 years of professional experience, during which time he has been in charge of the planning, structural design and plan production, construction and/or rehabilitation of numerous steel and concrete long-span bridges (cable-stayed, suspension, arch, truss, girder, segmental), movable bridges, interchanges and major viaducts throughout the U. S. He is experienced in both conventional design/bid/build and design/build projects.

Project Experience

Port Authority of NY & NJ, Goethals Bridge Expansion, Elizabeth, NJ. Project Manager and Chief Engineer for the preliminary design and plans equivalent to 30% Stage III final design of the concrete alternative a 6,310-foot-long high level precast segmental concrete box girder bridge with a 1,640-foot 3-span cable-stayed main span. The approach spans consist of precast segmental concrete box girders varying in length from 120' to 150' and build by the span-by-span method of construction. Also in charge of the design of the prestressed concrete girder approach spans varying in length from 120' to 160', along with the design and constructability reviews of the steel tied-arch main span (740') for the steel alternative. The bridge was designed for combined highway and light rail use. Responsibilities included: project management and cost control, bridge type studies (steel composite and concrete cable-stayed, tied arch), engineering analyses/designs, civil/highway design, ship collision studies/risk analyses including preliminary design of dolphins and artificial island, multi-mode response spectrum dynamic seismic analysis and liquefaction studies, hydraulic and scour analyses, electrical and mechanical, aesthetic lighting, cost estimates including life cycle analyses, and technical special provisions for design-build project deliver option.

Port Authority of NY & NJ, George Washington Bridge, NJ and NY. Project Manager in charge of the rehabilitation to control water infiltration in the New Jersey and Palisades Cliff anchorages of a 4,800-foot-long suspension bridge.

NJ Dept. of Transportation, Route 36 Highlands Bridge over the Shreswbury River, NJ. Project Executive and Principal Engineer in charge of the preliminary design of a 1,700-foot long mid-level fixed bridge designed to replace on-line a 1,240-ft long low-level double leaf bascule bridge. The new bridge features twin precast segmental concrete box girder structures designed to be built by the balanced cantilever method. Bridge alternatives studied during the conceptual design phase included precast segmental concrete box girder (span-by-span, balanced cantilever), steel box girder, steel I-girder and post-tensioned spliced girder. Engineering services for the project include: project management, support of environmental assessment documents and permits, roadway and ROW plans, surveys, subsurface investigations, preliminary design, and public involvement program.

NJ Dept. of Transportation, Route 7 Wittpenn Bridge over the Hackensack River, NJ. Project Executive and Principal Engineer for the final scope development and preliminary design of a 8,800-ft long mid-level vertical lift bridge, approach viaducts and ramps to replace the existing Wittpenn Vertical Lift

Bridge (one of the "Tri-Hack" Vertical Lift Bridges built on the Hackensack River in 1930) on a north alignment. The 324' long by 110' wide main span - believed to be the widest vertical lift bridge in the world - features steel orthotropic box girder construction. The approach viaducts and curved ramps are of steel composite I-girder construction. Engineering services for the project include: project management, final scope development, environmental assessment documents and permits, roadway and ROW plans, surveys, subsurface investigations, preliminary and final design and plans, and public involvement program. The project is currently in the preliminary design phase.

West Virginia Dept. of Transportation, Bridge No. 3693 over the Mud Fork River, WV. Project Manager / Chief Engineer in charge of the final design, contract plans preparation and construction support services including construction engineering, shop drawing reviews and RFI's for a 1,530-foot-long 6-span continuous steel plate girder bridge. Steel plate girder (longitudinally stiffened) spans vary from 200' to 290' and are supported on post-tensioned T-piers with heights up to 210'. First use of high performance weathering steel in West Virginia. Developed bridge concept and provided technical supervision to all analyses and designs including erection analysis and construction support services. The bridge was recipient of 1998 AISC/NSBA Prize Bridge Award for Medium Span Bridges.

South Carolina Dept. of Transportation, Replacement of the Cooper River Bridges, SC. Project Manager / Chief Engineer in charge of the replacement of the existing Grace and Pearman Bridges with a 7.2-mile-long high-level bridge that carries U. S. 17 across the Cooper River and Town Creek between the City of Charleston and the Town of Mt. Pleasant. The project included a signature cable-stayed main bridge (longest in the western hemisphere) with accompanying high and low level north and south approach viaducts, interchanges and associated roadway approaches in Charleston and Mt. Pleasant. Responsibilities for the project included:

1) project management and administration
2) engineering analyses and preliminary designs for cable-stayed main span bridge (concrete segmental and steel composite alternates) with a western hemisphere record center span of 1,550'. Conceptual studies included self-anchored suspension bridge and steel tied arch
3) engineering analyses and preliminary designs for segmental concrete box girder, post-tensioned spliced girders, steel plate girders and steel box girder alternates for approach spans and interchanges
4) Surveys and mapping
5) Right-of-way plans
6) Roadway plans
7) Boring exploration program including pile load test program for 6' and 8' diameter drilled shafts under static, dynamic and simulated liquefaction tests
8) Hydraulic Analyses (tidal flow) and reports. Scour analyses
9) Development of seismic design criteria including site specific time histories and response spectra curves. Push-over analyses
10) Ship collision studies including conceptual design of artificial island
11) Wind studies; 12) Bridge architectural renderings
13) Re-evaluation of FEIS including updating of traffic studies, noise analyses, hazardous materials and cultural resources
14) Utilities
15) Development and coordination of public involvement program including brochures, newsletters, public information meetings and project web site
16) Development of early construction documents for utilization of FHWA discretionary funds

Avanti Shroff, PE
Bridges

Education

- Ph.D. Studies, 1967-1973
- MS, Engineering Mechanics, 1965
- BS, Civil Engineering, 1963

Registration/Credentials

- Professional Engineer: NY, NJ, DE, MI, MO, VA, WV

Avanti Shroff has over 45 years of experience on several major diversified projects. He is a registered Professional Engineer in many states and is an active member of many professional and technical organizations. His expertise covers inspection, evaluation and design of major transportation structures, recreational facilities and commercial building, industrial and institutional Building facilities, mass transit structures and water front facilities.

Mr. Shroff has authored numerous technical publications in professional journals and conference proceedings in the fields of Structural Engineering, Computer Applications, Inventory, Inspection and Rating of Bridges, failure investigations and Rehabilitation of Buildings and Bridges. He has led numerous short courses and lectures to industry professional. He has participated as Principle Investigator in many research projects and workshops with funding from National Science Foundation, National Institute of Standards and Technology, Federal Highway Administration and American Iron and Steel Institute. Mr. Shroff has been responsible for the development of many innovative solutions using new technologies and materials. Some of these include:

- Use of precast polymer concrete to produce a pile jacket system to prolong life of existing piles
- Use of (shot-Crete) in rehabilitation of flat plate buildings to increase the load carrying capacity
- Use of remote sensing techniques (GPR and Infra Red) to rapidly and accurately identify delamination in building facades and concrete bridge decks.
- Development of Copy righted software for storage of multi-media information, Integrated Bridge Inspection Information System (**IBIIS**).
- Development of copy righted software for electronic field data collection using hand-held computers,
- Inspection On Hand (**IOH**)
- 1998 finalist for The CERF Charles Pankow Award for Innovation in Innovative Application Category for both of the above software.

Project Experience

Port Authority of New York and New Jersey, Expert Professional Structural Engineering Services for All Electronic Toll Collection System, New York, NY. Project Manager for project involving Toll Collection System at the existing six PANYNJ tunnels and bridges using a proprietary type space frame structure spanning several lanes of the roadway. This System will eliminate cash toll payments by utilizing E-Zpass transponders (tags) to collect the tolls to the maximum extent possible, and license plate image capture to collect tolls from non-E-Zpass customers.

Port Authority of New York and New Jersey, Modernization of the PATH Christopher Street Substation, New York, NY. Project essentially involves replacement of four existing 1.5 MW rectifiers with 3 MW rectifier lineups and replacement of existing 650 V DC switchgear, cable vaults and duct banks. Other project elements include architectural, structural and mechanical modifications to the building in compliance with NYC Landmarks requirements.

NYS Dept. of Transportation, Rehabilitation/Replacement of Trans-Manhattan Expressway Connector Ramps, New York, NY. These Ramps connect the Harlem River Drive with the Trans-Manhattan Expressway (I 95) leading to the George Washington Bridge. The challenge was to evaluate the

condition of the asphalt-covered deck, establish/improve the load carrying capacity of the deck and extend the life of this deck to ensure a satisfactory performance for at least 5 years.

NYS Dept. of Transportation, Rehabilitation of Kosciuszko Bridge over Newtown Creek, Brooklyn and Queens, New York including Seismic Evaluation and Retrofit. Engineer responsible for conducting seismic analyses, evaluating seismic vulnerability of bridge components and developing recommendations for upgrading/rehabilitation.

MTA Bridges and Tunnels, Various Locations, NY. As a Project Principal/Manger involved in biennial inspections, in-depth inspections, evaluations and production of repair documents for a number of bridges including:

- In-depth inspection and repairs of Marine Parkway Bridge
- Specific repairs, inspection of main cables and investigation of breakage of cable wires for the Verrazano Narrows Bridge
- Biennial inspections and preparation of repair details for Marine Parkway, Cross Bay Boulevard and Henry Hudson.

NYS Dept. of Transportation, Biennial Inspection of Bridges in all 11 Regions of New York State including NYC, Nassau and Suffolk Counties. Project Principal/Manager/QC Engineer for biennial inspection of over 7,900 bridges (30,000 Spans) including major bridges in NYC: Manhattan Bridge, Queensboro Bridge, Robert Mosses Causeway twin bridges over Great South Bay, Kosciuzko Bridge, Third Avenue and Madison Avenue Bridges, Gowanus Expressway Viaduct.

NYS Dept. of Transportation, Rehabilitation of Robert Moses Causeway NB and SB Bridges over Great South Bay. Project Principal/Manager involving field inspection, load rating, structural vulnerability assessment, seismic analysis and retrofit measures, BRPR and cost estimates for two bridges, each 2 miles long with 155 spans. A 3D computer model of the northbound structure, composed of over 318 nodes and 807 elements was used to model the entire structure consisting of 2 cantilever 225-foot anchor spans and one 350-foot main span. This model was capable of providing load rating (static analysis), fatigue assessment (static and dynamic), traffic impact evaluation (dynamic), and seismic assessment (static and dynamic).

Steel Detail Vulnerability Assessment of Steel Bridges in NYC. Project Principal/Manager for the Steel Detail Vulnerability Assessment of 538 bridges (3,750 spans) including long viaducts in Region 11 within the Bronx, Queens, Kings and Richmond Counties. The project also included the structural integrity evaluation and seismic, collision and fatigue vulnerability assessments of 61 bridges.

Value Engineering Studies for Various Clients. Mr. Shroff has participated in VE workshops and has completed value-engineering assignments for NYSDOT, ConnDOT, MTA Bridges and Tunnels, and NYC Dept. of Sanitation of New York for projects involving large bridges and buildings.

Robert J. LaMagna, PE
Bridges

Education

- ME, Civil Engineering, 1986
- BE, Civil Engineering, 1984

Registration/Credentials

- Professional Engineer:

NY #[redacted]
NJ #
CT #

Robert LaMagna has over 20 years of experience in bridge, roadway, and transit related projects. He currently is Project Manager of a NYSDOT Preliminary Design phase project for a section of the Major Deegan Expressway in The Bronx, and is Project Manager for structural on-call assignments with The Port Authority of New York and New Jersey and MTA-Bridges and Tunnels. Robert was also recently Deputy Project Manager for the NYSDOT Alexander Hamilton Bridge rehabilitation project. He was also previously in charge of Final Design of the Tappan Zee Bridge Partial Superstructure Replacement project and a series of three NYSDOT expressway bridges in the Bronx carrying or crossing over I-95, I-295, and I-695. He was also a Structural Task Manager for the Fulton Street Transit Project in lower Manhattan and Project Manager for Final Design of several NYCDOT roadway bridges over Amtrak on Manhattan's west side, including the landmarked West 79th Street Traffic Circle and Rotunda Complex. His experience has focused mainly on Total Design Contracts including preliminary design, final design, and construction support services

Project Experience

Port Authority of NY & NJ, Rehabilitation of George Washington Bridge 178th Street and 179th Street Ramps. Project Manager for performance of the in-depth inspection, preparation of Field Verification Report, Development of Testing Plan, and generation of Level 1 load ratings for the 178th Street, 179th Street, East and West Bus Ramps, and Bus Turnaround structures. Scheduled and provided oversight to the Jacobs engineering staff in undertaking these tasks while coordinating with the prime consultant and the Authority. Elements inspected included reinforced concrete roadway decks, and structural steel and reinforced concrete superstructure elements. The testing plan included cores with tests for compression strength, chloride concentration, freeze/thaw resistance, and air content. Additional testing included top of deck Ground Penetrating Radar (GPR) and underside of deck Half-Cell Potential and Linear Polarization methods to determine likelihood and rate of steel rebar corrosion. The load ratings will be used to develop details for a comprehensive rehabilitation project that addresses all priority repairs.

Port Authority of NY & NJ, 2009-2010 Structural (Bridges) Call-in, New York and New Jersey. The following tasks were completed for this on-call project:

- Inspection of LaGuardia Airport runway deck structures expansion joints. Led the structural effort in performing expansion joint inspections to identify structural weld failures and to inventory splice locations. A report documenting weld failure locations was prepared and delivered to the Authority.
- Analysis of In-Pavement light fixtures at LaGuardia Airport runway decks. Led the effort in evaluating the condition of a subject in-pavement runway light fixture. Aircraft load conditions were applied to the fixture and structural analyses were performed to evaluate the adequacy of various connection configurations. A report was prepared for the Authority that included analysis overview, discussion of results, and recommendations for future maintenance. FHWA bulletins were referenced throughout this task assignment.

Port Authority of NY & NJ, Structural Engineering Services for Port Newark-Port Street Improvements East of NJ, Stage I. Project Manager responsible for conceptual structural design of a flyover ramp at the Corbin Street and Port Street intersection and widening of an existing roadway bridge connecting eastbound Port Street with southbound Corbin Street. A 2-lane flyover structure was planned, piers were located on plan to allow construction staging and to provide adequate clearances, and preliminary

design was performed on the multi-span continuous structure. Conceptual bridge sections for steel plate girders and reinforced concrete pier bents were prepared and delivered to the Authority. Further, design and loading criteria were developed and a preliminary cost estimate was prepared.

NYS Dept. of Transportation, Cross-Bronx Expressway, Section I-95, Alexander Hamilton Bridge and Highbridge Interchange Ramps Rehabilitation between Amsterdam Avenue and Undercliff Avenue, New York, NY. Deputy Project Manager responsible for oversight of final designs, assistance in completion of temporary works designs for bridge deck replacement and superstructure and substructure rehabilitation, as well as the preparation and submission of a major PS&E package for this $400 million construction project. This project maintains 4 peak hour traffic lanes in each direction of high volume traffic passing between Bronx and Manhattan on Interstate 95 (Cross-Bronx Expressway). Under the Construction Support phase, Project Manager coordinating the review of shop drawings and Contractor material submittals, addressing questions for the client and contractor, resolving field condition issues, and reviewing the Contractor's design change suggestions.

MTA Bridges and Tunnels, GFM 468, Miscellaneous Designs on an As-Needed Basis, (2010-2011). Project Manager responsible for all as-needed design services. Currently leading the structural effort at the RFK Bridge for a series of tasks including cable anchorage investigation, structural joint repairs, drainage modifications, and electrical system inventory. Non-destructive testing is scheduled at anchorage eyebars, anchorage roof joints will be inspected and repaired, and structural concrete modifications will be performed on the sidewalks to accommodate drains and improve water runoff flow

NYS Department of Transportation, Phases I-VI of Trans-Manhattan Expressway Connector Ramp to Harlem River Drive, New York County. QA/QC Engineer for the preparation of final plans, specifications, and estimate for superstructure and substructure repair details on the connector ramp, a 2000 ft long steel and concrete-framed 55 span viaduct that carries 4 lanes of traffic, and five ramp structures ranging in length from 50 ft to 400 ft connect the ramp with local streets and TME. Responsibilities included oversight of structural analysis of members identified for repairs, load ratings of structural deck elements, development of various steel and concrete repair methods, and estimated construction costs. Engineering support was provided during construction to address field conditions.

NYS Dept. of Transportation, Phases I-IV of Major Deegan Expressway (I-87) Southbound between High Bridge Interchange and Macombs Dam Bridge, Bronx County, NY. Project Manager for the scoping, development of design alternatives, and preliminary design of a new southbound collector-distributor road parallel to southbound Major Deegan Expressway. The existing southbound steel viaduct in this area will either be rehabilitated or replaced with a fill section supported by retaining walls. Responsibilities include leading the Structural Department effort and coordinating with Civil, Traffic, MPT, and Environmental Departments throughout the scoping, identification of alternatives, and preliminary design phases, culminating with delivery of a Design Report.

Lynne Baumann, PE
Bridges

Education

- MS, Structural Engineering, 1981
- B.SCE, Civil Engineering, 1977

Licenses/Certificates

- Professional Engineer, NJ and NY

Lynne Baumann is thoroughly experienced in the management, coordination, and design of projects for transit, railroad, and highway infrastructure and facilities, especially those involving bridges, viaducts, and stations. She specializes in the design of new bridges and viaduct structures, as well as the inspection, evaluation, analysis, rehabilitation, and repair of existing structures, particularly throughout New Jersey, Connecticut, and New York. Her expertise includes the evaluation and design of both concrete and steel structures.

Project Experience

NJ Dept. of Transportation, Wittpenn Bridge, Route 7 over the Hackensack River. Project Manager responsible for the Final Scope Development, Preliminary Design, and Final Design for the replacement of a four-lane highway vertical lift bridge with a new higher level 324-foot long by 110-foot wide vertical lift bridge with 70-foot vertical clearance in the closed position. The new bridge is proposed to be a steel box girder lift span with an orthotropic deck. Preliminary bridge type studies and Environmental Assessment document for the replacement included resolution of hazardous materials, wetlands, historic/archeological, and geometric constraints. The preliminary design was completed in November 2005. Due to funding limitations, the Final Design started in Spring 2007. Preliminary plans were produced for the lift span, conventional steel girder with concrete deck approach spans, and curved girder approach spans and ramps. Various pier types and wall types were studied and evaluated based on utility conflicts and staging constraints.

NJ Dept. of Transportation, Route 36 over the Shrewsbury River, Monmouth County, NJ. Project Manager responsible for leading the effort in the Feasibility Assessment, and Preliminary and Final Design phases of the project. The work during the Feasibility Assessment phase included optimum height studies for replacement of the existing double leaf bascule bridge. This phase also included an Alternatives Analysis, development of Coast Guard permits, presentation material for community meetings, and alignment studies. Preliminary studies resulted in the recommendation for replacement with a 55-foot double leaf bascule, however changing U. S. Army Corp of Engineers requirements led to re-evaluation of the alternatives. A revised Alternatives Analysis was undertaken along with the Final Scoping for replacement of the structure with a new fixed bridge providing 65-foot vertical clearance on an extension of the same navigational channel (extended slightly to the south) as the existing.

NJ Dept. of Transportation, Route 9 over Bass River, New Gretna, NJ. Project Engineer responsible for studying alternate types of bridge crossings for the replacement of the existing historic bascule bridge. Various vertical clearances for navigation were studied, and impacts of various alignments and profiles were presented. Coast Guard permits were prepared in order to obtain early approval to modified navigation clearances.

MTA Bridges and Tunnels, Triborough Bridge Sidewalk and Specific Deck Repairs, New York, NY. Project Engineer responsible for the contract documents, design specifications, and estimates for the replacement plans for the sidewalk on the Triborough Bridge including the Bronx Kills Crossing, Harlem River Lift Bridge, Steel Viaducts, and Main Suspension Span. Replacement of sidewalks on both sides of over 2.1 miles of structure included the replacement of drainage structures and structural repairs of sidewalk supporting members.

Lynne Baumann, PE
Senior Project Manager / Structural Engineer

NJ Dept. of Transportation, Pulaski Skyway Rehabilitation, Newark to Jersey City, NJ. Project Engineer responsible for the rating and design of structural and safety improvements. Repair plans based on field inspection findings for the 3.2 miles of structure included structural strengthening, drainage modifications, clearance modifications, new sign structures, substructure repairs, and bearing rehabilitation. Responsible for consultation during construction and shop drawing review. Plans also involved construction staging for maintenance and protection of traffic during construction on this heavily traveled elevated roadway.

CT Dept. of Transportation, Stamford Station Improvements including Washington Boulevard Bridge, Stamford, CT. Project Manager responsible for the design of the station platform replacement and modifications. Project responsibilities included plans, specifications, and estimates for the Washington Boulevard Bridge and station modifications. The station improvement involved the installation of new tracks and relocation of existing tracks throughout the project. The replacement of the railroad bridge over Washington Boulevard and roadway reconstruction to increase the underclearance included maintenance of traffic studies and staging of new track construction to maintain both highway and rail traffic throughout the project. This project also included coordination of work for new center island platforms and side platforms, which were prestressed tee beams. Track realignment, handicapped accessibility, catenary modification, electrical and mechanical modifications to the station, pedestrian overpasses, and replacement of the pedestrian tunnel were also part of the project scope. Final plans, specifications, and estimates for all work were integrated with separate contracts by three other consultants to be bid as a single contract. Presently providing construction phase services, shop drawing review, and consultation during construction.

CT Dept. of Transportation, Yankee Doodle Bridge Rehabilitation, Norwalk, CT. Project Engineer responsible for the analysis and rehabilitation plans for the seven-span, 900-foot long highway bridge carrying I-95 over the Norwalk River. In charge of rehabilitation contract documents and construction inspection for replacement of the existing pin and hangers and retrofit of the hinge supports. The project also included safety improvements, installation of a new latex modified overlay for the deck, and new drainage structures. Maintenance of traffic on the heavily-traveled structure was a key consideration for staging the design for construction.

NJ TRANSIT, Monmouth-Ocean-Middlesex Study, NJ. Project Manager in charge of oversight on the Supplemental Study of Alternative Alignments and Mitigation Measures, Investigation of Tunnel Options, and Investigation of Jamesburg and Monroe Stations. This work was part of an ongoing study of the feasibility of providing a new commuter rail line between Lakewood and Monmouth Junction to respond to the growing populations in these three counties.

Todd N. Schickel, PE
Bridges

Education

- MS, Structural Engineering, 1981
- BS, Civil Engineering, 1975

Registration/Credentials

- Professional Engineer: NJ

Todd Schickel has extensive experience in bridge design, rehabilitation and inspection. He has managed major bridge design and inspection programs for a variety of clients and in a variety of settings throughout the Northeast. His experience includes replacement design of multi-span viaduct structures, railroad carrying structures, pedestrian bridges, roadway and bridge safety improvements, and microwave antenna support structures, and inspection and report preparation for hundreds of bridges.

Project Experience

NJ Turnpike Authority (NJTA), Interchange 6-9 Widening Program, Design Section 8. Structural Design Leader responsible for the management of the design of bridges, retaining walls, noise walls, culverts, and sign support structures for Design Section No. 8 of this $1.25 Billion Widening Program. Mr. Schickel's responsibility on this project was to lead the design team and to act as the interface between my designers, the Project Manager, and the client. Also had the responsibility to act as Deputy Project Manager regarding issues such as management of subconsultants, attendance at all project status meetings, and in the preparation of monthly progress reports and invoices.

NJ Turnpike Authority, Interchange 16W Route 3 Improvements, East Rutherford, NJ. Project Manager and Structural Design Leader responsible for the structural design of two bridges carrying Route 120 SB over Route 3 to Route 3 EB. Some unique aspects of the project included the design of tight radius, horizontally curved girder structures on skewed substructures that maintained adequate sight distance above and minimum horizontal and vertical clearances below; designing to minimize impacts to adjacent wetlands; designing to minimize staged construction activities; and the design of mechanically stabilized earth retaining wall systems. The project also included the design of new overhead and cantilever sign support structures in accordance with the criteria set forth in the NJDOT Design Manual, Bridges, and Structures.

NJ TRANSIT, Engineering Services for Undergrade Bridge Inspection, Statewide, NJ. Project Manager responsible for the management and QA activities of this railroad bridge inspection project. The project includes the field inspection, rating, and report preparation for 53 railroad bridges throughout New Jersey. This project entails detailed bridge inspections and condition evaluations, preparation of load capacity rating calculations or an update of existing load capacity ratings, preparation of inspection reports, and a revision of data sheets for the bridge management system.

NJ Turnpike Authority, Design Services for the Lengthening of Six New Jersey Turnpike Bridges, Southern, NJ. Project Manager responsible for acting as client liaison and providing project administration and staffing. Jacobs provided professional design services for the lengthening of six bridges carrying Authority, local, and state roads over the Turnpike Mainline. In anticipation of the future widening of the Turnpike Mainline from four to six lanes along its southern reaches, the Authority choose these six structures (which are currently in need of substantial rehabilitation) for lengthening to accommodate the future widening of the roadways below. The staged lengthening of these structures was accomplished with minimal impact to the motoring public.

NJ TRANSIT, General Engineering Consultant for Bridge/Railway Engineering, Plainfield, NJ. Project Manager responsible for the management of a study to rehabilitation or replace 13 bridges on NJ

Transit's Raritan Valley Line in Plainfield, NJ; for the preparation of contract documents for the rehabilitation of the Grant Avenue Bridge within this group of bridges; and for the complete reorganization and rewriting of NJT's Specification for Pipeline Occupancy on NJ Transit Property.

NJ TRANSIT, Main-Bergen Connection and Main Line Improvements for Secaucus Transfer, Secaucus, NJ. Project Manager responsible for the management of the design of two multi-span elevated structures, one culvert replacement, and one thru-girder bridge rehabilitation for this project to connect NJT's Main Line and Bergen County Line. Also served on the Technical Evaluation Committee with NJT, evaluating the qualifications of prospective contractors for the construction of the project. Jacobs was responsible for conceptual planning, environmental assessment, operations, and preliminary/final design of the project, including services during construction.

NJTA, Jersey Gardens Mall Off-Site Roadway Improvements (Kapkowski Road), Elizabeth, NJ. Deputy Project Manager, Project Manager responsible for the management of the design and construction of roadway improvements, including five new bridge structures and several retaining wall and sign structures, for improved access to the Jersey Gardens Mall, located in the vicinity of the NJ Turnpike Interchange 13A and Newark Airport.

NJ Sports & Exposition Authority, Replacement of Pedestrian Bridge over NJ Route 120, East Rutherford, NJ. Structural Director responsible for the development of 30% contract documents for the replacement of this bridge between Giants Stadium and the Continental Arena. Special issues addressed were aesthetics, ease of maintenance, vandal resistance, and cost. The existing bridge was an enclosed steel truss bridge approximately 1200' long by 10' wide supported on steel trussed towers which spanned over NJ State Route 120 between the Giants Stadium and Continental Arena parking areas.

NJ TRANSIT, Undergrade Structure Inspection, Statewide, NJ. Project Manager responsible for the management of this railroad bridge inspection program. The project included the field inspection (including coring and testing of brick and/or stone structures), rating and report preparation for 97 railroad bridges throughout New Jersey.

NJ TRANSIT, Frank R. Lautenberg Rail Station at Secaucus Junction, NJ. Lead Structural Engineer responsible for management of the structural design portion of this extensive project, a major rail transportation hub located at the junction of the Northeast Corridor and NJT's Main Line and Bergen County in the Hackensack Meadowlands. Jacobs was responsible for conceptual planning, environmental assessment, operations, and preliminary/final design of the project, including services during construction.

Kimberly L. Murray, PE
Bridges

Education

- ME, Structural Engineering, 1990
- BS, Civil Engineering, 1979
- Course, NYSDOT Bridge Inspection

Registration/Credentials

Professional Engineer
in NY #[redacted]
NJ #[redacted]
OH

Kimberly Murray's experience is concentrated in bridge design and rehabilitation for both design projects and construction support services. She has served as project manager and project engineer responsible for contract plans and report preparation, client contact, agency coordination and supervision of technical personnel.

Project Experience

Port Authority of NY & NJ, George Washington Bridge, Installation of Exterior Metal Stairs at Several Locations, NY. Project Manager for this call in contract assignment for work at the George Washington Bridge, for replacement of the maintenance platform at the obstruction beacon on the New York tower saddle room roof and installation of maintenance stairs at other locations on the bridge. Responsibilities included client coordination, supervision of technical personnel, project task scheduling and budget and project progress tracking. Project tasks included data research, field inspection, contract plan and estimate preparation and post award services, (shop drawing review, review of contractor requests for information, preparation of "as-built" drawings).

Port Authority of New York & New Jersey, George Washington Bridge, NY Approach Ramps LX1, LX2, Lower Level Ramps 3 and 4 Structural Engineering Services, New York, NY. Project Manager for this call in contract assignment for work at the George Washington Bridge, for provision of structural engineering services required to prepare the superstructure steel for painting by PANYNJ maintenance personnel at four New York approach ramps to the bridge. Responsibilities included client coordination, supervision of technical personnel, project task scheduling and budget and project progress tracking. Project tasks included data research, field inspection of steel and concrete repair areas and drainage downspouts, an electrical and utility survey, development of performance criteria for suspended work platforms, contract plan and estimate preparation.

Amtrak, Nationwide Program Management for Designated American Recovery and Reinvestment Act Projects, various locations. Ms. Murray performed quality reviews of Security Enhancement Bridging Documents for over 30 projects and prepared Bridging Documents for 2 Bridge Public Safety Improvement projects, meeting a fast tracked schedule. The Bridging Documents, which include plans, specifications, scope of work and performance design criteria, comprise procurement packages for design-build firms to bid on.

NJ Transit, Lackawanna Cut-Off Passenger Rail Service Restoration, Morris and Sussex Counties, NJ. Ms. Murray is the Structural Task Leader responsible and currently responsible for the design of a concrete arch culvert to replace the existing arch culvert. Since the project is in the Lackawanna Cut-Off Historic District it is necessary to consider SHPO concerns in the design and configuration of the new structure.

NJ Dept. of Transportation, Route 7 Wittpenn Bridge over the Hackensack River, Jersey City and Kearny, NJ. Reviewed structural design calculations and prepared structural design calculations for the new machinery room and new control house for the lift bridge. Also performed an independent check of the design of pier mounted sign structures. The designs and checks included use of computer modeling.

Somerset County, NJ, Replacement of Southside Avenue over Peters Brook, Borough of Somerville and Township of Bridgewater, NJ. Project Manager for engineering design services for replacement of a single-span through girder bridge with a prefabricated truss structure. The roadway will be widened and the sidewalk will be extended from the bridge to meet the existing sidewalk at the adjacent cross street. The profile will be modified to improve the west approach. All construction on the east approach must be done within the ROW since the adjoining properties are parkland. The work included hydraulic analysis, preparation of plans and applications for NJDEP permits and a NJ Soil Conservation District certification, utility coordination, community involvement and preparation of contract plans, specifications and estimates. Responsibilities included coordination with the survey subconsultant, client contact, budget tracking and staff supervision.

NYC Dept. of Transportation, Rehabilitation of Metropolitan Avenue Bridge over English Kills, Brooklyn, NY. Deputy Project Manager for the Construction Support Services (CSS) Phase of the rehabilitation of this double leaf bascule bridge. The project provided for replacement of the bridge mechanical and electrical equipment, deck replacement, repair and replacement of structural steel superstructure and trunnion column elements, partial replacement of the reinforced concrete piers and replacement of the wing walls and approach retaining walls, construction of a new operator house, elimination of the approach spans, fender system rehabilitation and painting the structure. Responsibilities included coordination with project team subconsultants, the resident engineer, the contractor and the client; review of contractor-generated requests for information (RFI's); supervision of technical personnel; shop drawing review; attending site visits to provide technical input; and attending weekly project progress and technical review meetings.

MTA Bridges and Tunnels, 2003 Miscellaneous A/E Design Services, GFM-419A, Assignment No. 27 – Verrazano Narrows Bridge: Scoping of Upper Level Approaches Rehabilitation. Served as Structural Task Leader; work included the scoping and preparation of a Deck Scoping Summary Report for the design of the deck rehabilitation for the Upper Level Approach Spans of the Verrazano Narrows Bridge The scoping includes the collection and review of available data, conceptual design for the replacement of the decks, maintenance and protection of traffic schemes, barrier replacement/relocation, life cycle cost analysis and evaluation of probable costs.

MTA, Bridges and Tunnels, 2001 Miscellaneous A/E Design Services As-Needed, GFM-413B, Various Locations, New York, NY. Served as the Structural Task Leader for the following assignments:

- **Throgs Neck Bridge:** Assignment #4 – Oiling of Cable Strands; Assignment #11 – Final design and preparation of plans, specifications and estimates for the Walkway and Ladder Upgrade; Assignment #14 – Feasibility study, conceptual design and preparation of scoping document for the walkway and access upgrade access system by preparing a request for proposal document for the design services required to satisfy the intent of the project.

- **Henry Hudson Bridge:** Assignment #15 – Feasibility study, conceptual design and preparation of scoping document for the replacement of upper level toll plaza; Assignment #16 – Feasibility study, conceptual design and preparation of scoping document for the replacement of lower level toll plaza.

Scott I. Jarmel, PE
Bridges

Professional Background

Education

– BSCE, Civil Engineering, 2001

Registration/Credentials

– Professional Engineer: NY #[redacted]

Professional Affiliations

– National Society of Professional Engineers

Scott Jarmel has ten years of experience as an Engineer that includes reviewing shop drawings, preparing reports, and modeling/analyzing structures using GTSTRUDL for bridges and buildings. He has also been a Team Leader and Assistant Team-Leader on inspections of buildings and multiple bridge types including suspension, truss, stringer, and moveable bridges.

Project Experience

Port Authority of NY & NJ, 178th St, 179th St, Bus Ramps, and Bus Turnaround, George Washington Bridge. Team Leader responsible for the in-depth inspection and documentation of the two New York approach ramps and three Port Authority Bus Terminal bus ramps for the George Washington Bridge. Bridge structures consist of concrete decks on steel stringers, floorbeams, and columns, and concrete decks on concrete floorbeams and concrete columns. n addition, a concrete testing program including coring, compression testing, concrete property determination, and half-cell potential analysis will be developed based on the results of the inspection effort.

Port Authority of NY & NJ, Runway Expansion Joint Inspection, LaGuardia Airport. Team Leader responsible for the inspection and documentation of damaged or delaminated plug welds on the tie-down plates of the runway expansion joints. Approximately 300 segments of expansion joint plates were inspected on both runways 4-22 and 3-31, with each segment having approximately 30 plug welds requiring sounding and documentation.

Port Authority of NY & NJ, Christopher Street Substation Upgrade, NY. Project Engineer responsible for the schematic design phase thru 100% design documents for the PANYNJ Christopher St substation upgrade. Work included assisting in the development of a Design Development Package, field trips to measure and verify existing conditions, and preliminary calculations/design to determine possible structural schemes and their related costs.

NYC Dept. of Sanitation, Garage 4/4A/7, New York, NY. Project consists of design of $150M, 400,000 SF four-story parking structure to support DOS vehicles with an equivalent weight of an HS-20 truck. The structure was designed as a vertical bridge, carrying moving vehicles from the ground floor to the 4th floor. As Office Engineer, provided construction support services for the construction phase of the project. This consisted of reviewing shop drawings for a variety of items including steel and concrete details, and assisting in the development of design modifications to the superstructure and substructure as a result of field conditions and Contractor RFIs.

NYS Dept. of Transportation, Bridge Maintenance Repairs at Various Locations, Trans-Manhattan Connector Ramps, New York, NY. As Engineer, assisted in the completion of a maintenance contract for the 55-span main TME ramp and 5 connector ramps. This consisted of identifying items requiring repair and noting them on bridge plan drawings, developing details for these repairs, and providing a quantity estimate for each repair. Repair items included full median barrier replacement, structural deck repair, parapet repair, bridge railing replacement, and curb replacement. Additional work consisted of performing load rating calculations for the concrete deck on the 55-span main TME ramp and assisting in performing a concrete integrity evaluation for the main TME ramp deck.

Scott I. Jarmel, PE
Senior Structural Engineer

NYC Dept. of Transportation, Final Design Metropolitan Avenue Bridge, Brooklyn, NY. Project Engineer inspecting the inside of the Metropolitan Ave. drawbridge, concentrating on the structure's steel framework. The inspection included taking measurements of the steel members, noting pack rusting and corrosion. Sketches were made in addition to taking photographs in order to show the location and extent of these finding. Also, proofread updated CAD drawings and noted any errors found.

NYS Dept. of Transportation, Rehabilitation of 16 Bridges Cross Bronx Expressway, Bronx, NY. Gathered information on the Alexander Hamilton Bridge's structures and made notes and sketchers as to locate and size all the defected areas for future repair.

NYS Dept. of Transportation, Van Wyck Expressway Bridges, Queens, NY. Assisted in various aspects of the design for the 190th Avenue and Foch Boulevard bridges over the Van Wyck Expressway, including the design of the overhead sign support frame used to mount the traffic sign to the fascia of the bridge. Helped to develop the profile and support details for the water main that runs along the side both bridges. Also helped in reviewing and approving/disapproving shop drawings for various elements in the construction phase of this project.

NYC Dept. of Transportation, Crooke/Newkirk Avenue Bridge, Brooklyn, NY. Assisted in inspecting abutments of the bridges crossing over MTA tracks. The inspections included sounding the concrete deck and abutments and noting hollow areas, checking for spalled areas, and noting other imperfections in the concrete such as efflorescence. Additional measurements were taken of the columns and their connection details located on the station platform so that accurate drawings could be made.

NYS Dept. of Transportation, Seismic Analysis of Kosciuszko Bridge, Queens/Brooklyn, NY. As Engineer, assisted in the seismic analysis and retrofit of the pier and abutment foundations for the 23-span bridge. The foundations consisted of both spread and pile footings. The analysis required checking the soil bearing capacity, pile capacity, spread footing/pile cap moment and shear capacities.

Connecticut Dept. of Transportation, Office of Rails; Field Verification Inspection of 63 Metro-North and Off-System Bridges. As Team Leader and Assistant Team Leader, performed inspections of 63 Metro-North bridges and Off-System bridges in various Connecticut counties. These inspections were intended to verify conditions noted in previous routine inspections and to identify which conditions warranted repair or replacement. As Engineer, completed repair plans based on the findings and conclusions from the field inspection. The repair plans consisted of repair details and a bill of materials. Typical repairs included full bearing replacement, bearing rehabilitation, primary and secondary member replacement, cracked weld repairs, and bearing stiffener repairs.

Wanda Wing Man Lam, PE

Bridges

Education

- MS, Structural Engineering, 2005
- BS, Civil Engineering, 2003

Registration/Credentials

- Professional Engineer: CA

Wanda Lam has seven years of experience and has been responsible for designs of bridges, buildings and specialized structural support projects. She has worked on bridge rehabilitation and bridge replacement projects and completed design calculations, plans, cost estimates, quantity estimates and specifications. Ms. Lam is experienced in the use of Staad.Pro, Sap 2000, GTStrudl, SAFE, RISA, Prestressed 14, Cap 18, MicroStation, PDS Frameworks 3D Modeling, AutoCAD, MathCAD, Matlab, C++, EnerCals.

Project Experience

Port Authority of NY & NJ, Design and Implementation of Replacement Toll System, NY and NJ. Structural Engineer responsible for evaluating existing conditions of structural elements and providing recommendations for removal and replacement of Toll Systems at Authority facilities. Developed Structural Technical Parameters and criteria to be used in design including: project scope, codes and standards, functional requirements including loads, material grades, design and construction assumptions and sustainability checklist. Developed contract drawings for system modifications.

NYS Dept. of Transportation, Long Island Expressway Corridor ITS Improvement, NY. Structural Engineer responsible for the analysis and design checking of new cantilever and overhead sign structures and support system in accordance with AASHTO Standard Specifications for Structural Support for Highway Signs. The effects of new sign structure loadings onto the existing superstructure of each bridge were analyzed.

NYS Dept. of Transportation, Cross Bronx Expressway, Bronx, NY. Analyzed and designed new overhead sign structures and support system in accordance with AASHTO Standard Specifications for Structural Support for Highway Signs. Developed attachments and connections details. Designed temporary supports, stringers, deck slab and retaining walls in phased construction in accordance with AASHTO Bridge Design Specifications. Modified drawings using Microstation.

MTA Metro-North Railroad, Cortlandt Station and Parking Improvements, Cortlandt, NY. Designed prestressed concrete slab units roadway bridge in accordance with AASHTO Bridge Design Specifications and PCI Precast Prestressed Concrete Bridge Designed Manual. Analyzed and designed foundation against static and dynamic loadings. Developed structural drawings.

Washington Department of Transportation (WSDOT), SR532 Corridor Improvement Design/Build Pursuit, WA. Performed preliminary structural design for General Mark W. Clark Memorial Bridge Replacement: designed and analyzed various bridge configurations using WSDOT prestressed precast girders and weathering steel plate girders; designed substructure; performed material estimations.

NYS Thruway Authority, Term Agreement for Seismic Vulnerability Assessment, Statewide NY. Evaluated structural integrity and seismic vulnerability of existing bridges according to the NYSDOT Seismic Vulnerability Manual. Prepared seismic assessments reports.

BP Products Company, Upgrade and Modification Projects, Los Angeles, CA. Responsibilities included designing new equipment supporting structures, pipeways and foundations for multi-million dollar modification projects at Carson Business Unit. Modified and upgraded existing structures to meet current

building code requirements. Prepared calculation packages for the city plan check. Prepared drawings using Microstation and AutoCAD. Performed material requisitions and estimations. Attend project meetings and coordinated project schedules with project managers and clients. Obtained field measurements, performed jobwalks and communicated with various disciplines.

Project Experience with Others

Simpson Gumpertz & Heger, Inc., Los Angeles, CA (1/06–7/06). Structural Engineer

- **Structural Engineering Department** - Designed 3-stories residential wood framed buildings according to LABC code. Prepared calculation package for plan check submittal. Coordinated project schedule with architects. Checked shop drawings.
- **Building Technology Department** - Coordinated and instructed water testing on varies construction sites according to ASTM standard. Determined and traced leakage sources and directed leakage repairs on sites. Communicated progress and schedule with property owner. Prepared daily technical field reports. Checked construction submittals and drafted waterproofing specifications. Provided information requested by Architects.

City of Los Angeles, Bureau of Engineering, Los Angeles, CA (2005). Served as civil engineering associate designing buildings components: masonry walls, wood truss joist roofs according to the UBC code. Obtained measurements from field.

Chiang, Patel & Yerby, Inc., Austin Texas, (2003–2004), Structural Engineer

- **Fort Bend County Toll Road Authority, Westpark Tollway Direct Connector, SE, Fort Bend, TX (06/03–06/04).** Designed substructures: straddle bents, multicolumn bents and steel-concrete transition bents according to AASHTO using structural analysis programs such as RISA, Prestressed 14 and Cap18. Performed structural analysis for moment connections between caps and columns. Designed reinforcement for caps and columns using PCACOL. Obtained roadway geometry using Geopak and RDS. Drafted detailing plans using Microstation.

- **Texas Department of Transportation, Bridge Widening over Onion Creek, Austin, TX (6/03–6/04).** Sub-coordinated the project. Analyzed bridge widening possibilities and designed phase construction, designed substructures, superstructures using Cap 18, RISA, RDS. Analyzed column reinforcement and foundation design. Obtained measurements from field. Designed quantities. Prepared detailing drawings.

Richard I. Wenger, PE
Terminals – Project Manager

Education

- BE, Mechanical Engineering, 1986

Registration/Credentials

- Professional Engineer: NY #[redacted]

Employment History

1997-present - Jacobs
1987-1997 - NYC Dept. of Sanitation
1986-1987 - Mason & Hanger

Rick Wenger is a licensed professional engineer with over 19 years of construction management/ inspection experience. Mr. Wenger is an experienced Resident Engineer with attentiveness to details and options. Past and present experience has primarily focused on constructing and renovating NY City and NY State owned vehicular repair, parking, and administrative facilities with diversified and specialized equipment including fuel storage and dispensing, pneumatically and electrically operated vehicle repair, lifting and frame straightening, and machine/ blacksmith shop. Pre-construction duties have entailed scope development through the understanding of user needs, preliminary and final design documents constructability reviews, preparation of pre-bid Addendums, conducting pre-bid walkthroughs, and bid evaluation/ award.

Project Experience

MTA New York City Transit, Charleston Bus Annex, Staten Island, NY. Project Director for design review, construction management and inspection services. Jacobs has been serving as the Consultant Construction Manager (CCM) during the pre-construction, construction, and closeout phases of the Charleston Bus Annex. The new Annex was planned to relieve the severe overcrowding at the Yukon and Castleton Depots in Staten Island and provide additional capacity for the expansion of service on Staten Island where overall ridership has grown from 31.3 million to 39.6 million since 1998. The new bus annex – bound by vacant properties to the south, a residential area of the north, and a golf driving and pistol range to the southeast and east – will provide operational capacity for 220 MCI buses. The facility consists of a building with a footprint of approximately 108,000 SF, with outdoor parking areas for buses and employee vehicles. Construction Value: $113 million

NYC Department of Environmental Protection Hillview Reservoir, Yonkers, NY. Resident Engineer for this project where Jacobs provided construction management services for a $500M project that involved improvements to the 90-acre, 900-M-gallon reservoir located in Yonkers. Chlorination of 85 to 90 percent of city water takes place at the reservoir, also pH balance monitoring and corrosion control. Improvements include chamber reconstruction and a chloride addition facility.

MTA Bridges and Tunnels, Battery Parking Garage, New York, NY. Resident Engineer for this $30 million structural repairs and lighting system improvement project including mechanical, plumbing, fire protection and electrical rehabilitation and upgrade.

MTA Bridges and Tunnels, New Service Building at the Bronx Whitestone Bridge, Bronx, NY. Resident Engineer for this $15 million new service building. Jacobs provided construction inspection and support services to the MTA Bridges and Tunnels for the 33,000 SF New Service Building at the Bronx Whitestone Bridge. The New Service Building provides space for operations, maintenance and engineering units attendant to the operation of the Bronx Whitestone Bridge Facility. Specifically, it includes locker rooms, muster rooms, administrative

offices and repair garages. Security systems coincident with toll collection operations were integral to the Facility.

NYC Dept. of Sanitation, Rehabilitation of Garage Floor at Central Repair Shop, New York, NY. Project Manager for the $10 million demolition and reconstruction of elevated concrete slabs and supporting structural steel for three 20,000 sf garages in an existing, operational facility including installation of a high pressure steam bypass system to de-energize steam piping below, temporary support and protection of ductwork and plumbing assemblages, replacement of electrical busway, lighting, public address and power distribution equipment and enhancement of an oil/water separator system.

NYC Dept. of Sanitation, Clinic Relocation at 44 Beaver Street, New York, NY. Project Manager for this $1 million medical clinic construction in high rise building including examination, laboratory and office areas, complete with sanitary, heating/air conditioning, and electrical facilities.

NYC Dept. of Sanitation, Construction of Manhattan Borough Repair Shop, New York, NY. Project Manager for this $50 million 5-story (70,000 sf per floor) specialized equipment repair and administrative edifice containing a blacksmith shop with plate bending, forge, brake, shear and frame straightening machines, a machine shop with milling, lathe, pressing, and hose repair equipment, a paint shop with a spraying booth, a truck washing area, administrative facilities on raised floor construction for computer and communications flexibility, roof top parking, storage areas, locker rooms, kitchens, fire alarm, closed circuit television, public address and inventory control equipment and a pneumatic temperature control system governing HVAC equipment.

NYC Dept. of Sanitation, Construction of Queens North Borough Repair Shop, New York, NY. Project Manager for this $25 million 4-story vehicle repair facility (60,000 sf per floor) housing hydraulic and electric truck lifting equipment, overhead bridge cranes and monorails, specialized equipment for dismounting, inspection and repairing tires, integrated compressed air, vacuum and underground tanks coupled with vehicular fluids dispensing systems, magnetic door locking for security, a microprocessor based energy management system controlling chilled water air conditioning and gas fired heating and boiler equipment, along with administrative offices, an exercise room and a roof top parking lot.

NYC Dept. of Sanitation, Office Engineer, Construction of Queens 5/5A Garage, Queens, NY. As Office Engineer, assisted in the development of design documents, scheduling and project costs breakdown during pre-construction phases of $30 million garage complex. Corresponded with City Agencies and Utility Companies to obtain approvals.

Mason and Hanger/Silas Mason Incorporated, New York, NY. Inspected commercial building construction projects. Prepared construction progress reports and daily logs.

Tilcon New York, Incorporated, New York, NY. Assistant Plant Engineer; troubleshooting and preventative maintenance evaluation of stone quarry crushing, conveying, screening and pollution control equipment. Instituted new equipment designs and installations.

Vincent A. Cassano, PE
Terminals

Education

- BSCE, Civil Engineering, 2005

Registration/Credentials

- Professional Engineer:
  NY #[redacted]
  NJ #[redacted]

Vincent Cassano is a project manager and heads up the site-civil engineering group. He is responsible for project management, design and development of site/civil projects and has served as Project Manager and Project Engineer leading the design efforts on numerous projects for both public and private clients. He is experienced in the design and management of multi-disciplinary projects and has specific expertise in site-civil engineering including parking facilities, plazas, parks, roadways, drainage, utilities, and other related tasks.

Project Experience

Port Authority of NY & NJ, Civil Engineering "Call-In" (2008-11), NY and NJ. Project manager for this ongoing agreement. Following are a representative sample of assignments:

- **Teterboro Airport, Construction Staging:** Project Manager responsible for leading the Stage I effort to evaluate removal and relocation of the existing construction staging and storage area at Teterboro Airport. The Stage I report evaluated various alternative locations considering pros and cons associated with site access, environmental constraints, and facility concerns. Additionally the team prepared preliminary drainage analysis and identified all the necessary permits required for the improvements. This required extensive coordination with the PA environmental discipline as well as others to ensure all the constraints were identified and addressed.
- **Stewart International Airport, Runway Incursion Mitigation Study:** Project Manager responsible for leading the Stage I effort to evaluate the existing conditions and improve the maneuverability and load bearing capabilities of the perimeter roadway at Stewart International Airport. This project included roadway alignment vertical and horizontal, drainage, and pavement design. The objective was to improve the existing roadway and allow it to be used by a fully loaded fuel truck. The design enhanced maneuverability, and rehabilitated the pavement to accommodate the structural load as well as extend the service life of the roadway. Storm drainage as well as environmental constraints were evaluated and coordinated with the appropriate PA disciplines.
- **John F. Kennedy International Airport, North Boundary Road Pavement Rehabilitation.** Project Manager responsible for leading the Stage I effort to evaluate the existing conditions of North Boundary Road and providing recommendations as to the necessary rehabilitation to extend its service life. Jacobs performed a field assessment and condition analysis of the roads and parking facilities included in the program consisting of approximately 1 mile of roadway. We evaluated pavement cores taken by the PANYNJ subcontractor and made recommendations for rehabilitation which will extend the expected life of the surface and meet current Port Authority standards.
- **LaGuardia International Airport, Storm Drainage Rehabilitation/ Master Utility Study.** Managed the Stage III review of sewer video inspections at LaGuardia. This project will provide the PA with recommendations for rehabilitation and upgrading of the storm sewer system through out the airport and surrounding infrastructure. This task is a follow up to a master utility study also prepared by Jacobs. A hydraulic analysis of the airport storm sewer system evaluated the available capacities as compared to the expected design flows, and deficiencies were identified. We are currently working with the PA to combine the recommendations of both studies into a comprehensive long term rehabilitation plan.

Vincent A. Cassano, PE
Terminals

Port Authority of NY & NJ, Civil Rail Engineering "Call-In" (2008-11), Harrison PATH Station Replacement, Harrison, NJ. Lead Engineer responsible for providing site civil design for the construction of four new head houses, plaza areas, and bus turnouts at the station. The upgraded station is the transit hub and center of the redevelopment zone which included a new stadium, residential and retail development as infill to an existing urban community. Plaza areas are designed to be an inviting park like atmosphere accommodating pedestrian and bicycle traffic and supported by the adjacent vehicular zones including bus and passenger drop off areas and parking facilities. The design will include grading drainage and utility improvements as well as storm water management and roadway design. Additionally this project requires extensive coordination between the Port Authority Real-estate developers, county and municipality.

MTA Metro-North Railroad, Cortlandt Station Parking, Intermodal and Access Improvements, Cortlandt, NY. Project Engineer involved with the design of a new parking and intermodal facility at Cortlandt Station. The design will include a new pedestrian overpass, plaza area and 400 car parking expansion. He is responsible for the grading, drainage and storm water management design for the project. Responsible for the design and analysis of a new detention basin to control water quality, and managed the water quality basin design and stream analysis associated with a new bridge crossing. He also reviewed SWPPP plans for the adjacent roadway project being developed, and prepared a combined SWPPP for the project.

State University Construction Fund, SUNY College of Environmental Science and Forestry, Bray Hall, Syracuse, NY. Project Manager responsible for leading the site design of a new parking facility to support the gateway building project. This task included site layout of a new parking lot, and access roadway, utility upgrades, storm water management, site lighting, retaining walls, stairs, landscaping and plaza improvements. Jacobs is currently managing the construction phase of this project with an expected completion in the spring of 2010. Mr. Cassano was also responsible for preparing design of a detention system to address NYSDEC water quantity and quality requirements. As part of the design, he prepared a SWPPP report and plans, coordinated with the MSU and received approval.

State University Construction Fund, SUNY College at Fredonia, Phase II Water Distribution Upgrade, Fredonia, NY. Project Manager for the Phase II Water distribution upgrade at the College at Fredonia. The project includes replacement of several thousand feet of water mains on campus as well as providing new service and backflow prevention to approximately 13 existing buildings. In addition to preparing plans and specifications for the water main replacement the team is developing a water model which will identify areas of deficiency, and account for future growth. Mr. Cassano is responsible for the overall quality control, including schedule, budget and coordination of lead and supporting disciplines. He is also coordinating long term goals associated with growth as they are factored into our model and design.

David Fox, EIT
Terminals

Education

- BS, Mechanical Engineering 2006

Registration/Credentials

- EIT

David Fox is experienced in construction administration procedures including: construction inspections; preparation of construction estimates and CPM schedule reviews; and constructability reviews. Although, a recent Graduate, with a BS in Mechanical Engineering, He is very experienced in various areas of the construction industry.

Project Experience

MTA NYC Transit, Charleston Bus Annex, Staten Island, NY. Office Engineer - specific duties include reviewing design-build drawings and specifications, conducting construction inspections of various disciplines, managing project document control by tracking submittals, RFIs, correspondence and daily reports in the Constructware database system, preparing construction progress meeting minutes, preparing the monthly Project Management Manual, preparing AWO construction estimates and assisting in CPM schedule reviews. The new bus annex will consist of a building with a footprint of approximately 108,000 square feet, with outdoor parking areas for buses and employee vehicles. The major scope of work items include the new building consisting of the bus annex at the first floor, with a mezzanine and second floor for offices, locker rooms, and support areas. The annex shall include facilities for the service and maintenance of buses with a bus fueling area, bus washing system, revenue extraction system, and maintenance bay area with 15 dedicated lift workstations and automated parts retrieval system. The facility's fluid distribution system includes thirteen underground tanks and piping for diesel fuel, fuel oil, motor oil, automatic transmission fluid, antifreeze and windshield washer fluid dispensing and waste systems with two oil/water separators. The project also includes green design (DfE) requirements including a bus wash system with water reclamation system for utilization of site storm drainage water, and energy-efficient lighting and HVAC systems. The scope of work also includes mechanical, electrical, communications and I&C systems for the new building with BMS system integration and a bus parking area for 220 buses and employee parking area for 196 cars outside the facility.

NJ School Development Authority, Paterson Public School 24, Paterson, NJ. Project Engineer – specific duties included managing project document control by tracking submittals, RFIs, change orders and invoices in the Prolog database system, preparing construction progress meeting minutes, preparing the monthly reports, preparing construction change order cost estimates and assisting in CPM schedule reviews. Public School 24 consists of an existing four-story brick building of approximately 76,000 square feet. Scope of work included addition of a new curtain wall structure of approximately 33,500 square feet constructed on the site of the existing school and linked to the facility by a closed entry element, construction of a new state-of-the-art media center, addition of a new gymnasium, cafeteria, kitchen, nine general classrooms, two science rooms and community health center. The existing building received replacement of the entire existing HVAC, electrical and communications systems as well as architectural renovations. Site improvements included new paving in the courtyard, new concrete sidewalk, steps and ramps, installation of synthetic playground surfaces and new fencing.

Port Authority of New York & New Jersey, Various Locations. Engineering intern - Construction services including mechanical/electrical inspections at Goethals Bridge, Outerbridge Crossing & Bayonne Bridge and surveying at John F. Kennedy and LaGuardia Airports.

James Coddington, PE
Terminals

Education

- BSCE, Civil Engineering, 1968

Registration/Credentials

- Professional Engineer: NY

James Coddington has 40 years of heavy construction experience on projects for city and state transportation and environmental agencies. He is a specialist in both new construction and rehabilitation of bridges, tunnels and sewer line installations. He has managed many of the facilities projects performed by the New York office.

Project Experience

Port Authority of New York & New Jersey, Performance of Expert Professional Program and Construction Management Services on an "As-Needed" Basis-Project Manager. Port Newark/Port Elizabeth – Widening of bridges over New Jersey Turnpike and Conrail. Responsibilities included: inspection of and reports for concrete placement for foundations, piers and abutments, steel reinforcement installation, installation of insertion valves, check torquing of high strength bolts, lane closings on Turnpike and North Avenue. Express Rail – responsibilities included inspection of and reports of dynamic soil compaction, installation of test piles, pile load testing, stone backfilling and density testing, inspection of drainage installations.

MTA Bridges and Tunnels HH-06 Replacement of the Northbound Approach of the Henry Hudson Bridge - Project Manager for the construction inspection and support services including excavations and removals, new reinforced concrete pavement, new drainage and repairs to existing drainage, installation of new guardrail and concrete barriers, new pavement markings, repair arch underpass and maintenance and protection of traffic.

MTA Bridges and Tunnels Queens Midtown Tunnel Roadway Slab and Fresh Air Duct Sidewalls - Project Manager for the construction inspection and support services – rehabilitation of the reinforced concrete supporting the asphalt riding surface, sealing the newly rehabilitated support surface with a waterproofing membrane system which was overlaid with "Trinidad Lake" asphalt pavement. Thorough lead and asbestos removal in the ducts and flues supplying fresh air to the tunnel roadway area.

NYC Department of Transportation, Bureau of Bridges - Project Manager. Projects included: $6M demolition and replacement of Stillwell Avenue Bridge, Brooklyn, NY; $1M replacement of Livonia Avenue Pedestrian Bridge over Long Island Rail Road, Brooklyn, NY; $2M reconstruction of Sixth Avenue Bridge over Long Island Rail Road, Brooklyn, NY; $2.2M reconstruction of Carlton Avenue Bridge over Long Island Rail Road, Brooklyn, NY; and $2.1M flag elimination project from various structures in all boroughs of New York.

NYC Department of Environmental Protection Inner Harbor CSO, Brooklyn, NY – Resident Engineer for construction management services for Capital Project WP-169, Inner Harbor CSO Abatement – Phase I. Responsible for the overall project management and resident engineering services of this site including: supervision and inspection of the work being performed, reviewing and monitoring construction schedules, maintenance of project documentation, reviewing and monitoring health and safety, and preparation of field change orders.

Ronald Zwerdling, CCM
Terminals

Education

- BS, Building Construction, 1981
- AAS, Construction Technology, 1979

Registration/Credentials

- Certified Construction Manager (CCM)

Ronald Zwerdling has over 26 years of construction estimating/ project administration on institutional, commercial and heavy civil projects in New York City. Mr. Zwerdling has been responsible for formulation of bids, change order estimating and contract negotiation. He has provided estimating services for lump sum and "hard money" projects as well as construction management contracts. He has experience in estimating and purchasing in the construction of industrial, commercial and residential projects including waste water treatment plants, municipal projects, Department of Transportation Public Works, correctional and medical facilities, bridges, schools, interior renovations and custom homes. He also has extensive experience with Primavera web based Contract Manager-Expedition, Prolog and P3 Scheduling.

Project Experience

United States Mission to United Nations, General Services Administration, New York, NY. Office Engineer/ Sr. Field Engineer. Worked on the $2.5 million Demolition of the United States Mission to the United Nations located at 45th Street and First Avenue in New York City. Project is to make way for new 27-Story high security US Mission.

MTA Bridges & Tunnels, Henry Hudson Bridge Lower Level Deck Replacement. Sr. Field Engineer. $85 Million renovation of the Lower Level of the Henry Hudson Bridge in New York City, Responsibilities include shop drawing review, contractor payments, change order estimating and negotiations, cost control, computerized document controls and overseeing of inspectors.

NYC Department of Sanitation Garage (Districts 1 & 4). Office Engineer. $55 Million New Construction of (2) Sanitation Maintenance Facilities in Greenpoint, Brooklyn. Responsibilities include contract and shop drawing review, change order estimating and negotiations.

MTA Bridges & Tunnels, Battery Parking Garage, New York, NY. Office Engineer. $30 million Structural Repairs and Lighting System Improvement; and Mechanical, Plumbing, Fire Protection and Electrical Rehabilitation and Upgrade of the Battery Parking Garage. Responsibilities include maintaining computerized document control system.

Juvenile Detention Facilities, Brooklyn and the Bronx for the NYC Department of General Services, NY. Office Engineer/Estimator. Construction of two new 100-bed facilities. These facilities will replace the City's only secured juvenile detention facility, which is now over 30 years old.

Thomas Schanze, PE
Marine Facilities - Project Manager

Education

- Masters of Engineering, 1984
- BS, Engineering, 1982

Registration/Credentials

- Professional Engineer: FL

Employment History
2009-present - Jacobs
1998-2009 - Georgia Ports Authority
1988-1993 - Greater Orlando Aviation Authority

Tom Schanze has over 27 years of experience that spans engineering project management and corporate, operations and financial management. As engineering project manager, he has worked on multi-million dollar port and marine facilities located both in this country and abroad. Mr. Schanze has also served as project manager and assistant project director involved in environmental consulting services, and a client manager for the St. Johns River Water Management District.

Project Experience

Georgia Ports Authority. Principal-in-Charge for over 10 years with this fast growth port facility in Savannah, GA. Projects included terminal expansions for Container Berths 7, 8 and 9 at Garden City Terminal in the Savannah Harbor. Services included planning, modeling and permitting for numerous projects at the facility that currently provides 9 berths along 10,000 feet of riverbank.

Principal-in-Charge for the Savannah Harbor Deepening project responsible for compliance with NEPA and preparation of a comprehensive Environmental Impact Statement. In order to facilitate the Port's growth plan and prepare for the arrival and servicing of Post-Panamax ship traffic, the harbor needed to be deepened to 48+ ft. This process requires a multi-year effort of environmental and alternatives analysis to fully understand environmental impacts to the ecosystem of the Savannah River and mitigating measures to offset the impacts. To facilitate the assessment, numerical model development of the harbor, assessment of the proposed dredging / deepening of the harbor on natural resources including marsh / wetland systems, fisheries, municipal water supplies and support for preparation of Environmental Impact Statement by the Federal Agencies was performed.

Environmental Program Manager for comprehensive planning of Hutchinson Island for development as a container terminal facility. This island is across the river from GPA's Garden City terminal and will require the closure and remediation of large pulp mill wastewater treatment facilities.

South Carolina State Ports Authority. Principal-in-Charge of the Charleston Naval Center conversion to a container terminal. Capital costs exceed $50,000,000. The team's efforts for this project focused on studies in support of ACOE issuance of Environmental Impact Statements for the project. Studies included transportation infrastructure to and from the port, environmental justice issues for the surrounding neighborhoods, air quality, dredging, soil contamination, wetland impacts, port planning and stakeholder coordination / public involvement.

Dubai Ports World, Port Jebel Ali. Facilitated conceptual planning to develop options for rail service to the berths planned for reclaimed land being developed at the port. The port terminal concept includes several basins in parallel extending out into the Gulf. The challenge for rail service to the individual berths was to connect the landside with a spine track and turnouts to each berth without interrupting truck and equipment movement.

Thomas Schanze, PE
Marine Facilities - Project Manager

Greater Orlando Aviation Authority, FL. Senior Project Manager/Assistant Project Director for five-year environmental consulting services project with the Greater Orlando Aviation Authority during expansion of the Orlando International Airport (OIA).

- Program Manager for a multi use utility/transportation corridor between OIA and Port Canaveral that considered light rail for cruise ship passengers, fuel, gas and electrical transmission and communications systems. Responsible for environmental assessment of alternative alignments for the corridor to compare with engineering evaluations of alternatives and stakeholder coordination.
- Project Manager for comprehensive planning for OIA buildout including master stormwater management planning and master mitigation plan development for wetland losses. Analysis included determination of alternative runway and taxi-way configuration as well as terminal planning.
- Project manager for the south terminal complex conceptual plan development including alternative development for stormwater management.
- Project manager for overall OIA compliance monitoring including surface and ground water quality.

St. Johns River Water Management District (SJRWMD). Client Manager and Principal-in-Charge approaching Jefferson Smurfit Corporation regarding regulatory issues associated with paper mill discharge to the St Johns River. Mr. Schanze recognized that the pending TMDL rules would adversely impact not only the Smurfit Mill but the members of the First Coast Manufacturers Association (FCMA— an industry group representing various stakeholders on the river). He facilitated an all-day seminar for members to hear technical presentations from the regulatory community, attorneys, and technical specialists to understand how the regulations may impact the membership. His team was selected by FCMA to represent the association and collaborate with the SJRWMD to develop a hydrodynamic / water quality model to apply various scenarios to the river in order to minimize impacts.

Cooper River Water Users Group. Client Manager and Principal-in-Charge facilitating an agreement within the Cooper River Water Users Group, an association of stakeholders to the river, who encouraged collaboration to assess the current health of the harbor and develop a water quality model of the harbor system. Objectives - gain consensus with regulatory agencies on data, the model and its application, and adoption of the model as the tool to be used by the agencies to develop waste load allocations and TMDL limitations for each user in the ecosystem.

Christopher P. Ahern, EI
Marine Facilities

Education

- MBA, 2010
- BS, Environmental Engineering Sciences, 1999

Registration/Credentials

- Engineering Intern: FL

Mr. Ahern is an experienced project and program manager for a variety of waterfront development and water resources projects. He uses his high degree of professionalism and integrity to build relationships and effectively manage projects to minimize risk and manage effective project teams.

Project Experience

Development Manager for Island Global Yachting, Dubai, United Arab Emirates International. Primary point of contact and client relations manager for Nakheel, Dubai-based developer of Palm Jumeirah, and other reclaimed island developments. Responsible for the implementation of Nakheel-IGY Master Development Agreement (MDA) to exclusively provide marine development concepts, preliminary design, detailed design and ultimately construction management services similar to a "turn-key" project approach for all Marine Boating facilities at all of Nakheel's developments. Specific responsibilities as Development Manager include:

- Coordinated resources of up to 12 Development Team staff and consultants to maintain progress against stated milestones and conformance to established protocols
- Monitored monthly Development Services billings relative to progress in annual revenue projections. Oversight of project deliverable preparation for quality management and compliance with Nakheel-IGY MDA
- Implementation and oversight of internal procedures to identify, evaluate and ultimately select consultants and Contractors for award
- Review of progress payment applications approved by Development Staff before recommendation for Payment to Nakheel
- Participation and management of analysis for in IGY Deal Teams for international development and investment projects in Europe, Easter, African Coast, India and Middle East

Charleston Marine Container Terminal at Charleston Naval Complex (CNC). Project Manager of engineering feasibility study for South Carolina State Ports Authority (SCSPA) to evaluate berth alignments and wharf construction alternatives to minimize dredging requirements. Program Manager responsible for coordination and management of all for NEPA Support Services Contract with SCSPA to support development of EIS and other decision documentation for the United States Army Corps of Engineers, Charleston District. Responsible for the production and distribution of the Draft EIS, as well as establishment and execution of Agency and Public Outreach Program.

Charleston Harbor Total Maximum Daily Load (TMDL) for Dissolved Oxygen. Project Manager for hydrodynamic and water quality data analysis to evaluate proposed reduction in NPDES permit loads for various discharges in Charleston Harbor. Evaluation of accumulated data and recommendations to Cooper River Users Group, an industry group evaluating the proposed reductions in permitted loads. Prepared estimates for the capital improvements required for Charleston Harbor users to achieve load reductions proposed by State and Federal Resource Agencies.

Savannah Harbor Expansion Project (SHEP). Performed a variety of roles for the Georgia Ports Authority's effort to evaluate impact of a proposed deepening of the Savannah River Federal

Navigation Channel from 42 ft MLW to a depth of 48 ft MLW. He started on the project as in intern performing field services, and eventually serviced a project manager presenting results from data analysis and modeling results:

- Project Manager for the analysis and presentation of accumulated data from 96 day continuous hydrodynamic and water quality monitoring. Responsible for the preparation of documentation summarizing results of 3-D Model Calibration and predictions of impacts resulting from alternative depths for deepening of the Savannah River Navigation Channel
- Field Data Collection Manager for continuous monitoring. Task Manager for creation of input files for 3-D Hydrodynamic and Water Quality Computer Model of the Lower Savannah River Estuary
- Field Services Technician responsible for four boat crews executing preliminary continuous monitoring plan to support calibration of 3-D model

Stormwater Engineer for the Town of Port Royal, SC. Responsible for on-call services to the Town of Port Royal, SC related to stormwater management and drainage improvement projects. Analyzed drainage issue reports and submitted recommendations to Town for corrective actions. Review of bid packages for major works including drainage improvements, reestablishment of hydroperiod in impacted freshwater wetlands and design and construction drawings were distributed. Mr. Ahern also maintained anticipated capital works budget for stormwater management and drainage improvement.

Stormwater Ordinance Development Support for Beaufort County, SC. Project Manager for the review of accumulated technical resources regarding environmental impacts of stormwater entering estuarine environment. Coordination with State resource agencies and USEPA regarding studies performed to date on upland development impacting water quality. Drafting ordinance language and presentations to Beaufort County Council to adopt proposed language as a County ordinance.

Agitation Dredge Impact Evaluation Study, Savannah, GA. Project Manager for study by USACE Savannah District, Georgia Ports Authority (GPA) and Savannah River Users Group to evaluate the impacts to water quality resulting from sediment plume during agitation dredging operation. Agitation dredging is common berth depth maintenance technique in Savannah Harbor. Agitation dredging methods include I-Beam dragging and 12" hydraulic dredging with sidecasting proposal into Savannah River Federal Navigation Channel.

John L. Larson, PE
Marine Facilities

Education

- BS, Civil Engineering, 1970

Registration/Credentials

- Professional Engineer: FL and WA

Mr. Larson is a senior project manager with over 39 years experience specializing in transportation program management, design project management, and construction management of highway, bridge, and marine facility projects. He is experienced in the management and design of complex highway interchanges, long span bridges, toll plaza facilities, transit stations, and intermodal rail and port cargo facilities; including waterfront structures, backland container development, container rail transfer facilities, cargo wharves, ferry terminals, and petroleum transfer piers.

Project Experience

Southport Terminal Berth 30 Container Crane Rail Extension, Port Everglades, Fort Lauderdale, FL, Project Manager. Provided engineering evaluations, design, construction documents and construction administration services for the extension of a heavy rail foundation system and electric power supply for low-profile container cranes. The project involved designing a minimum radius curve that accommodated the transport of electric powered 100-ft gage container cranes around a curved rail (90-degree corner) between Berth 31 and 30; and the design of rail switches and rail crossings to enable the container cranes to work along straight sections of the each berth and back into the corner locations to service the maximum possible length of container ship. The project also involved design of a new 4.2 KV power supply feed for two new cranes constructed in Korea, which arrived fully assembled. The project was phased to accommodate the crane delivery and testing while providing the minimal interference with existing Port operations.

Berth 219 Heavy Duty Wharf, Port of Tampa, Tampa, FL, Project Manager. Provided preliminary engineering and preparation of a design-build criteria document for the construction of a 400-foot x 100-foot wharf structure to handle scrap metal loading and unloading. The wharf was designed for a uniform live load of 2,400 per square feet and included concrete mooring dolphin structures and an energy absorbing rubber fendering system to accommodate both bulk ore carriers and barges. Duties also involved the development of a specific design-build selection procedure for this public agency, and the administration of the designer/contractor selection process, as well as design reviews and periodic construction inspection.

Port of Tacoma Intermodal Rail Yards, Port of Tacoma, WA, Project Manager. Managed the planning and design of three separate intermodal rail transfer container facilities totaling over 50 acres of land at a cost of approximately $12M. Projects included rail yard layout, heavy-duty pavement design, closed drainage systems and support buildings. The improvements serve Sea Land, Maersk, and other major shipping lines as the starting point of their railway land bridge across the United States. Innovative heavy-duty paving with roller-compacted concrete allowed for a rapid project delivery at a substantially reduced cost to the client. Provided periodic inspection and consultation during construction.

Intermodal Rail Facility, Port of Jacksonville, Jacksonville, FL, Technical Consultant. Performed a feasibility study to site a new intermodal rail yard on Blount Island adjacent to the Sea Land Container Yard. Developed conceptual plans for yard layout and support facilities on a 20-acre dredge spoil disposal site, including analysis of rail access and potential unit train

marshaling sites along a 20-mile corridor between the container transfer yard and mainline rail connections.

Marine Petroleum Loading Facility, Texaco, Inc., Anacortes, WA, Resident Construction Engineer. This $10M wharf improvement project included rehabilitation of two tanker berths capable of handling 125,000 DWT and 60,000 DWT ships by constructing of new crude oil and product loading platforms with articulating marine loading arms, breasting and mooring dolphins, a dock office, articulating gangways, fire protection monitors and sprinkler system, major piping modifications, new dock lighting, replacement of deteriorated timber pier components, and installation of steel grating over open pipeway areas. The project involved complicated pile-driving with water-borne equipment installing concrete piling up to 176 feet long in one piece. The project was accomplished while keeping the existing facility in full operation.

Terminal 18 Intermodal Rail Facility, Port of Seattle, Seattle, WA, Project Manager. Managed the planning and design and provided construction consultation for the initial development of a 15-acre container yard, including yard drainage, paving, crane runways, and a 3,800-square foot marine operations building with observation deck. In a subsequent phase of development, managed the design of an adjacent 10-acre "on-dock" intermodal rail yard container facility, including temporary and permanent gate facilities, lighting modifications, trackwork, paving, drainage and sewerage, and modifications to existing city streets. The facility serves major shipping lines with container yard rail access capable of assembling unit trains for trans-continental container shipments.

Pier 48 Ferry Terminal and Warehouse Renovation, Port of Seattle, Seattle, WA, Project Design Manager and Construction Consultation. Responsible for the structural rehabilitation of an existing 40-year-old timber pier with warehouse and Alaska State Ferry Terminal passenger facility. Replaced deteriorated timber piling with a combination of new driven piles and replaced stub piles underneath an existing pier structure. Utilized low headroom clearance pile driving techniques to drive steel piles inside the warehouse and installed full-length steel piles through the ferry waiting room roof and floor to support deteriorated substructure. Installed buried coated steel plate girders to re-support the building structure over a failing seawall, and raised the sagging building structure to a level condition.

Bulk Materials Handling Facility Feasibility Study, Port of Bellingham, Bellingham, WA, Project Manager. Conducted engineering feasibility study for the storage of agricultural products and the transfer from warehouse to ship-side loading using portable conveyor systems. The study also analyzed rail delivery of products to warehouse storages and low volume transfer methods from bulk rail car to storage.

Log Export Wharf and Berth Dredging, Anderson and Middleton Timber Company, Hoquiam, WA, Project Manager. Provided preliminary design of a 500-foot by 80-foot log export wharf and backland log storage yard, including U.S. Army Corps of Engineers permit drawings. Also obtained a permit for wharf construction and maintenance dredging using the "sand by-pass" technique. Conducted soils analysis in conjunction with permitting approvals to maintain dredge with special prop-wash machinery, which sweeps silt from the berth area into deeper main channel areas.

Kamran Marashi, PE, SE
Marine Facilities

Education

- MBA, Business Administration in Engineering and Technology 1988
- MS, Structures and Mechanics, 1983
- BS, Civil Engineering, 1979

Registration/Credentials

- Professional Engineer: FL, WA and CA
- Professional Structural Engineer: HI

Mr. Marashi has 30 years of design and project management experience in structural engineering. He has been a principal engineer on numerous structural engineering studies and designs of transportation structures, marine facilities, underground structures, serving municipal, state, federal, and private clients. These projects include bridge structures, waterfront piers, wharfs and bulkhead structures, low and high-rise building structures, due-diligence condition surveys, landslide restoration projects, buildings deterioration and remediation design and management, buildings failure investigation, structures corrosion rehabilitation, disaster relief funded projects, large retaining wall structures such as: cast-in-place concrete, tie-back soldier piles, secant piles, battered piles, sheet piles with dead-men, combi-walls, cellular walls and soil nail walls.

Project Experience

Port of Tacoma, Road and Rail Infrastructure Improvements, Tacoma, WA. Lead Structural Engineer for one of the largest port facility developments underway on the west Coast, for the Port of Tacoma. Project responsibility includes a new Taylor Way overpass bridge structure to be constructed as a single span bridge, but designed to accommodate the future expansion into a multiple span bridge. Due to poor soil conditions, detailed analyses and design are performed to enhance the current subsurface stability and its load bearing capacity. There are two new Qwest Telephone Exchange buildings, which includes the design of the building shells, site security fencing, and gates. Some of the project remediation includes Wapato Creek crossing structure that protects an existing stream which is a Salmon passage and habitat. This concrete bridge structure is necessary to support the future rail line installation for the project. As part of Blair Hylebos Shoreline protection, design and construction of seawalls and the shorelines retrofit are part of the remediation tasks project responsibility.

Port of Seattle Pier 69 Rehabilitation Survey, Seattle, WA. Pier 69 is a cast-in-place concrete structure built in 1931 for American Can Company. Responsible for assessment of below deck structure which included field investigation, chloride ion, pH, and half cell testing, review of the available existing documents and reports, and an underwater dive inspection of the deck structure. The study resulted in recommendations for rehabilitation system and protection against future deterioration. Passive and active cathodic protection (sacrificial anode system) was recommended to confirm the longevity of pier serviceability.

Pier 17 Replacement Project, Harbor Island, Seattle, WA. Responsible for the design of an 800-foot-long pre-cast pre-stressed concrete deck pier supported on steel pipe piles. The pier width varies from 50 feet to 25 feet while the mud line varies from 8 feet to 50 feet below deck level. The lateral system and stiffness were proportioned to provide a uniform distribution of lateral forces and limit lateral deflections of the pier. The piles closest to the bulkhead were 24" diameter pipe piles designed with a rocker pined connection to the deck structure for increased flexibility while the outer piles were 32" pipe pile with moment connections to the deck structure for increased stiffness. The entire system was balanced to minimize the whiplash effects during seismic activities.

Kamran Marashi, PE, SE
Marine Facilities

Port of Oakland Inter-Harbor Turning Basin Developments, Oakland, CA. Design of pier aprons and bulkheads, in addition to scope redevelopment of basin to a 2000-foot diameter turning basin modification of harbor.

Eighth Avenue Terminal Pier Modifications, Alaska Marine Lines, Seattle, WA. Project Structural Engineer for the reconstruction of an existing concrete pile-supported marginal wharf requiring modifications to support a roll-roll barge loading and container stacking operation.

Pier 48 Inspection Report and Modifications, Port of Seattle, WA. Engineer responsible for assessing the pier's capacity and make maintenance recommendations in keeping with the pier's deferred status. This is a 74,000-square-foot timber waterfront terminal supported on approximately 4,300 creosote timber piling.

Terminal 115 Concrete Pier and Timber Pier Structural Reviews and Rehabilitation, Northland Services, Seattle, WA. This project provided the due-diligence study necessary to establish facility conditions and the basis for shared maintenance. Three timber piers were rehabilitated as one part of an overall terminal upgrade. Project included modifications to the existing concrete pier for construction of two new 106' barge loading ramps and the ramps' pile-supported abutments.

Jacksonville Shipyard, Jacksonville, FL. Responsible for the structural design of waterfront features in the redevelopment of bulkhead and marine facilities at the old Jacksonville Shipyard. The scope of work included the design of all bulkhead (approximately 5,000 lineal feet) and marine features in the conversion of the industrial shipyard to a residential commercial development.

Atlantic Marine Dry dock Corp Finger Pier, Jacksonville, FL. Responsibilities included all aspects of design of a 536-foot-long finger ship service pier at Atlantic Dry Dock Corp including layout, gantry crane accesses, design coordination, and cost estimates.

Shell Oil Terminal Fendering & Mooring Dolphin Design & Replacement, Charleston, SC. Project Structural Engineer responsible for renovation of the fendering and for the design of mooring dolphins at the Shell Terminal facility including design, vendor selection and approval and product specifications contract documents.

Berth 3 Jaxport, Toyota Terminal, Jacksonville, FL. Project included construction of a 700-foot-long berthing facility to be constructed over the existing pile supported concrete deck with 700 feet of bulkhead. The existing facility was deteriorating and sink holes were developing due to migration of sub-grade material through the existing deteriorating bulkhead wall. The existing facility was to remain operational while construction was phased. The existing bulkhead line was fixed and could not be moved seaward or landward. A new cut-off wall was designed to mitigate sub-grade material migration into the river. The new concrete deck was constructed on the existing deck using the existing pile supports.

Ronald N. Zimmer, PE
Marine Facilities

Education

- BSCE, Civil Engineering, 1967
- BS, Architectural Sciences, 1965

Registration/Credentials

- Professional Engineer: IL, IN, SC, MO
- Registered Civil Engineer: KY and LA

Mr. Zimmer offers over 35 years in diversified engineering and architectural expertise. Mr. Zimmer specializes in planning and designing port and harbor projects with emphasis on land transportation interface, cargo and materials-handling systems, and specialized heavy cargo movements; and planning and designing railroad facility projects with emphasis on water and roadway transportation interface, cargo and materials-handling systems, and specialized heavy cargo movements.

Mr. Zimmer has extensive experience in operations planning for intermodal transfer of bulk, break-bulk, neo-bulk, and containerized cargoes. His experience includes management of multidiscipline design groups in the preparation of marine and waterway related construction documents, as in piers, terminals, flood control, navigation locks and dams and in the preparation of transportation facility related construction documents, as in yards, terminals, and waterfront and industrial facilities.

Mr. Zimmer has managed designs of piers, wharves, bridges, bulkheads, and other marine structures for port facilities, waterfront industries, railroads, and highways.

Project Experience

Intermodal and Waterfront Cargo Handling Projects. Ports and Marine Facilities Specialist for operational planning and design services as part of the development of intermodal and cargo handling facilities projects for:

• Port of Tacoma • Port of San Francisco • Port of Seattle • Port of Los Angeles • Port of Long Beach	• Los Angeles – Long Beach Intermodal Container Transfer Facility (ITCF) • Indiana Port Commission • Virginia Port Authority • International Marine Terminals • St. Louis Terminals Corporation

South Intermodal Yard, Port of Tacoma, WA.
Project Manager and Lead Planner for the development of this, first in the nation, port based Intermodal Rail Facility planned and designed for intense double-stack container operations. This facility, constructed on very limited available land has become the model for many subsequent Intermodal facilities serving the busiest port in the nation. The basic layout of having a limited space for lift operations led to the end-to-end arrangement for lift tracks and support tracks. This configuration also permits terminal switch crews to move cars between the lift and support tracks without interfering with or being interfered by the arrival and departure of mainline trains. Subsequently served as planner or planning consultant on more than 10 additional intermodal rail projects for the Port of Tacoma.

Terminal Island Container Transfer Facility (TICTF), Port of Los Angeles, CA.
Lead Planner for this Jacobs-designed Terminal Island rail facility. This facility represents an industry standard for operational efficiency. With eight lift tracks, eleven support tracks and two arrival/departure tracks capable of handling a 9000 foot long train each, the terminal is

designed to permit each independent activity to function with little to no interference from other terminal activities. By providing lift and storage and lift tracks of equal length in an end-to-end arrangement each track can service or be serviced by any other track in the facility. The TICTF design recognizes the intense demands placed on Intermodal rail equipment by providing for the need to make most running repairs while the railcar is in the terminal on the lift tracks. Provisions are also made for making heavier repairs and to accommodate the layover of mainline motive power in the terminal.

Pacific Container Terminal, Port of Long Beach, Ca.
Project Manager for the planning and design of a 4-track Intermodal Rail Loading Section in this operating marine terminal. Because this facility was within the leased limits of an operating container terminal, the question of how much space could be dedicated to the rail operation became even more critical because every square foot came at the expense of container yard operations. To minimize the footprint of the rail facility was designed for one aisle operation using the newly introduced "Reach-Stacker" as the equipment of choice for this operation. Efficient arrival and departure was another issue that required a unique solution. Since the terminal also desired a dockside heavy-lift track, this track was extended completely around the terminal to form a loop joining the Intermodal tracks. Arriving trains approach the terminal in the normal configuration with the locomotives on the head end. They proceed around the loop until they are in position to back into each of the Intermodal tracks.

Pierce County Terminal, Port of Tacoma, WA.
Project Specialist to guide the design of the Intermodal Rail Yard in the new Pierce County Terminal to permit the rapid loading and unloading of rail cars and to facilitate the efficient assembly or breakup of trains and their movement to and from the mainline trackage. This effort called for the close coordination of operations for this facility as well as the three other existing and two planned Intermodal rail facilities in the Port and the operations of three railroads that have access to the area. The Port of Tacoma is continuing to increase their capacity to handle containerized freight moving in the international market. Because the Pacific Northwest has a fairly small local market, nearly 80% of the containers moving through Tacoma are for inland and eastern destinations and most of these containers move by rail.

Security Improvements NWS Concord, MA. Civil Engineering lead for the design of security improvements at the Concord, California Naval Weapons Station. This project included a floating marine barrier, launching ramp and floating dock for small patrol boats. The project also included substantial amounts of new fencing and improvements to the facilities for handling containerized munitions.

Intermodal Rail Yard, Chicago Area. Project Manager for the performance evaluation and alternatives recommendation for a high volume intermodal terminal for the Santa Fe Railway.

Rail Access Improvements, Port of Long Beach, CA. Internal consultant for access track improvement serving several port terminals in the Port of Long Beach.

Michael P. Cavanaugh, PE
WTC Facilities - Project Manager

Education

- BCE, Civil Engineering, 1977

Registration/Credentials

- Professional Engineer: NY #[redacted]

Employment History

- 1977-Present - Jacobs

Mike Cavanaugh has extensive project management experience on a wide variety of assignments involving the rehabilitation of highways, streets and their related infrastructure in the New York metropolitan area. Mr. Cavanaugh has been involved in the design and construction services for over 30 miles of streets and roadways for agencies such as NYS Department of Transportation, NYC Department of Transportation and the NYC Economic Development Corporation. The projects have encompassed topographic surveys/ mapping, subsurface investigation and pavement design, design reports and the preparation of final plans, specifications and estimates for street reconstruction work including drainage, traffic signals and street lighting improvements. His experience encompasses extensive underground utility work that includes utility surveys, subsurface investigations and test pitting and the design of new and relocated utility system.

Project Experience

Port Authority of NY & NJ, World Trade Center Streets, Utilities, and Related Infrastructure Designs, New York, NY. Project Manager of the joint venture team providing design services for the creation of Greenwich Street between Vesey and Liberty Streets, and Fulton Street between Route 9A (West Street) and Church Street, including the installation of street utilities (water, storm and sanitary sewers, gas, and steam mains) to service the World Trade Center Site. Also responsible for the design coordination of the streets and related infrastructure designs with all participating stakeholders, including Silverstein Properties, Inc. (SPI), the MTA, Lower Manhattan Development Corp., NYCDOT, and NYCDEP. In addition to the new streets and utilities, the project includes the creation of Liberty Park, a new park adjacent to the WTC Memorial on Liberty Street, all roadway surfaces, sidewalks, street lighting, traffic control measures, appropriate street furnishings, way finding, landscaping and perimeter security measures.

Port Authority of NY & NJ, Civil Engineering Services on a "Call-In" Basis, NY & NJ. Principal-in-Charge for these "Call-In" agreements which include 33+ assignments ranging in fee from $25,000 to approximately $270,000. Project design work includes roadway reconstruction, airside site work, storm drainage rehabilitation, utility relocation and pavement repair.

NYS Dept. of Transportation, Route 9A Reconstruction Project, Horatio Street to W. 26th Street Phases V-VI, New York, NY. Project Manager for the final design and construction support services for the $70 million reconstruction of Route 9A through the Chelsea Section of Manhattan. The project encompassed the full reconstruction of the roadway corridor to provide a landscaped urban boulevard; construction of a new part at W. 14th Street and a significantly enlarged Thomas F. Smith Park at W. 23rd Street. The project also included extensive improvements to the underground utility systems including a new storm sewer system, new water main distribution system, new electric, telephone and gas facilities and new street lighting and traffic signal systems. Directed the overall design effort and interfaced extensively with NYS and NYC agencies, private utility companies and major stakeholders that included the Chelsea Piers Sports Complex and the Gransevoort Meat Market Associated.

Michael P. Cavanaugh, PE
WTC Facilities Project Manager

NYC Dept. of Transportation, Hudson Street Reconstruction, New York, NY. Project Manager for the preparation of a design report and final PS&E (1.8 miles) for this $30 million street reconstruction project. The design included a vault survey and special reconstruction details above existing vaults, 6,300 ft of new 48" trunk water main, the replacement of 16,000 ft of existing 12" and 20" distribution water mains, lining existing brick sewers, signal improvements at 32 intersections and the full reconstruction of the pavement, curb and sidewalks (including special streetscape designs at specific locations). The project also included the relocation design of the Empire City Subway duct system necessary to accommodate the new 48" water main.

NYC Dept. of Transportation, HWQ 342 Hillside Avenue Reconstruction, Queens, NY. Project Manager for the preparation of a design report and final PS&E for this 7-mile reconstruction. Project included widening of the roadway to provide a continuous mall to accommodate left turn lanes, special protection features at two Long Island Rail Road overpasses, upgrading traffic signalization and pedestrian crossings at 70 intersections, new water main construction, and the installation of seepage well systems to provide roadway drainage in unsewered sections. The project was constructed under four staged contracts covering different roadway segments.

NYC Dept. of Transportation, McGuiness Boulevard Reconstruction, Brooklyn, NY. Project Manager for the preparation of a design report and final PS&E (1.3 miles). The design included rehabilitation of the pavement, curbs and sidewalks, reconstruction of the boulevard's center mall to provide a planted median and channelization for left turning vehicles, signalization improvements at selected locations, the replacement of 9,000 feet of water main and 4,600 feet of combined sewers. Private utility work was also included in the design under a joint agreement with NYCDOT.

NYC Economic Development Corp., Linden Place, Queens, NY. Project Manager for the preliminary and final design for the reconstruction of NYC streets within the College Point Corporate Park in Queens. The project included subsurface investigations, geotechnical analysis and pavement design and final plans, specifications and estimates for pavement, curb and sidewalk rehabilitation. The project called for raising the Linden Place profile by approximately 5-feet to bring it into conformance with legal grade.

Battery Park City Authority, Vesey Street Utility Extensions, New York, NY. Project Manager for providing underground utilities to service the new NY Mercantile Exchange Building. New utilities constructed within Vesey Street between West Street and North End Avenue included 700 feet of new 10"/20" steam main, new electric duct banks, new storm/sanitary sewer connections and new water services. The project included test pitting to identify existing utility locations and the design of new utilities to minimize interferences. All designs were in accordance with NYCDEP and Con Edison standards.

MTA Bridges and Tunnels, 2003 Miscellaneous Design Services, NY. Principal-In-Charge for this "As Needed" design contract that includes more than 30 project assignments to date at the Authority's Bridge and Tunnel facilities for various structural/civil, architectural, electrical, mechanical, cost estimating, constructability review, value engineering and construction support services.

Lauren Calia Brennan, PE
Project Engineer

Education

- BS, Civil Engineering, 1998

Registration/Credentials

- Professional Engineer: NY#[redacted]

Lauren Calia Brennan is a Project Engineer in Jacob's Civil Engineering Group responsible for project design, development and management of site/civil and highway projects, contract documents and is thoroughly versed in AutoCAD/Microstation and other engineering software applications.

Project Experience

Port Authority of NY & NJ, Civil Engineering "Call-In" during 2002-2007. Project Engineer on tasks including:

- **Newark Liberty International Airport.** Study to install a new Oil Water Separator at Building 117 Stage I. Evaluated the quantity of storm-water run-off generated from a 10-year storm that is currently handled by the existing separator and what the increase in flow would be if tributary areas were increased.
- **JFK International Airport, Guard Post "R" Relocation and Reconstruction of North Hangar Road:** Designed site and roadway improvements in the vicinity of Guard Post "R" and North Hangar Road at the north side of the airport.
- **LaGuardia Airport, Crossover Chamber A:** Prepared design of a crossover valve chamber between high pressure and low pressure water supply systems.
- **LaGuardia Airport, Guard Post Drainage:** Prepared design to re-grade three guard posts to accommodate new security barriers.
- **LaGuardia Airport, Phase 3 Storm Improvements:** Providing construction support during the slip-lining of storm sewers throughout the airport.
- **Newark Liberty International Airport, Brewster Road:** Providing design of additional roadway improvements along Brewster Road.

Port Authority of New York & New Jersey, Civil Engineering "Call-In" during 1999-2001. As Project Engineer, involved in several assignments under this agreement; selected project assignments included:

- **Newark International Airport, Brewster Road Improvements.** Prepared a design for the relocation of Brewster Road and the construction of a bypass culvert system to redirect stormwater runoff under 3 separate contracts.
- **LaGuardia Airport, Master Utility Study - Storm Water Management.** Using state-of-the-art stormwater management software, Jacobs prepared a detailed hydrologic and hydraulic analyses of multiple stormwater conveyance systems and pump stations throughout the airport.

Amtrak, Nationwide Program Management for Designated American Recovery and Reinvestment Act Projects (ARRA) 2009-2011. Project Manager involved in the development of bridging documents at over 20 Amtrak facility locations. Ms. Brennan is responsible for the civil engineering design and coordination of discipline work at each site. The bridges documents will be used to procure design-build contracts to complete the ARRA stimulus projects within an 18-month time period. The projects include facility upgrades, security enhancements and station improvements.

MTA Metro-North Railroad, Cortlandt Station Parking, Intermodal and Access Improvements, Cortlandt, NY. Project Engineer for this $25 million project to add 750 parking spaces, a new

Lauren Calia Brennan, PE
Project Engineer

pedestrian overpass, station and plaza to the Metro-North Railroad Cortlandt Train Station. The project involves new utilities, lighting, stormwater management facilities, roadway bridge, access road, retaining walls and toilet facility. Ms. Brennan was responsible for the civil design elements, coordination of the technical design effort across a multi-discipline team, administration and support services during the design phase and preparation of final design documents.

MTA Long Island Rail Road, Morris Park Locomotive Shop, Jamaica, NY. Lead Civil Engineer responsible for site civil designs, including roadways, utilities and stormwater management. The site work includes the design of roadways, parking areas, water distribution system, sewer system and gas main connection. The design, which is seeking LEED certification, also includes a stormwater system that reuses rainwater within the building. Rainwater that is not re-used as part of the non-potable water system will be routed through the site new stormwater detention system to improve water quality and reduce peak flows.

MTA Metro-North Railroad, Harmon Shop Replacement Program, Phase III, Croton-on-Hudson, NY. Engineer responsible for the project's utility plans, utility alignment plans, profiles and details. Additionally, contributed to the preparation of the project's specifications and provided construction administration and support services during the project's construction phase. Harmon Shop Replacement Phase III is the largest engineering and construction project ever awarded by MTA Metro-North Railroad. Jacobs performed all site work on the $282 million project including 15 new tracks, new K-9 grounds for MTA police dogs, and design of drainage, utilities, communications systems, power, lighting, snow melter, and traction power systems. Responsibilities included the design of the water distribution, fire water, and sanitary systems.

NYS Dept. of Transportation, Alexander Hamilton Bridge and Highbridge Interchange Ramps Rehabilitation I-95 Corridor between Amsterdam Avenue in New York County and Undercliff Avenue, Bronx, NY. Project involved major bridge rehabilitation/replacement work for nine bridges and their associated segments of on grade roadways. As designer for this final design project, responsible for roadway design elements, including horizontal and vertical alignments using In-Roads, miscellaneous details, typical sections and for maintenance and protection of traffic.

ERA South Associates, Flatrock Square, City of Englewood, NJ. Engineer responsible for preparation of design documents inclusive of site layout, roadway design, site grading, drainage, stormwater management facilities, signage, utilities, lighting and landscaping. Also prepared application documents and obtained the required approvals from the NJDEP and Bergen County. Jacobs prepared site plan documents and provided traffic-engineering services on a 20-acre industrial and commercial parcel adjacent to Route 4 in the Englewood. The project includes 452 residential units, 50,000 sf of retail and two towers including more than 400,000 sf of office space.

Andrew R. Holland, PE
Project Engineer

Education

- BS, Civil Engineering, 2001

Registration/Licenses

- Professional Engineer: NY# [redacted]

Andrew Holland has over seven years of experience in highway and drainage design.

Project Experience

Port Authority of NY & NJ, World Trade Center Streets, Utilities, and Related Infrastructure, New York, NY (2007-2010) Project engineer responsible for storm sewer design, design of roadway profiles, road and sidewalk grading, water main design revisions, and utility connection coordination with existing and proposed facilities.

MTA Metro-North Rail Road, Harmon Shop Replacement Program-Phase III Croton-on-Hudson, NY (2006-2007). Project engineer responsible for design of storm sewer system for Harmon Shop Replacement.

NY Route 347, Nesconset Highway, Suffolk County, NY. Project engineer responsible for preparation of preliminary quantity and cost estimates, driveway-roadway access analysis, and right of way impact analysis.

NYS Department of Transportation, Van Wyck Expressway Intelligent Transportation Systems Improvements, Queens County, NY. Design engineer responsible for preparation of erosion and sedimentation control plans and Stormwater Pollution Prevention Plan (SWPPP) in accordance with New York State Department of Environment design standards.

Long Island Expressway Construction Support Drainage Design. Responsible for design of drainage structure and pipe layout to replace a storm sewer system that was damaged during construction activity.

NYSDOT, Alexander Hamilton Bridge-Cross Bronx Expressway, Bronx County and New York County, NY. Design engineer responsible for preparation of erosion and sedimentation control plans and Stormwater Pollution Prevention Plan (SWPPP) in accordance with New York State Department of Environment design standards.

Experience with Other Firms:

U. S. Route 209-Delaware Water Gap National Recreation Area, Pike County and Monroe County, PA. Project Engineer for the proposed improvement of a 6.5-km section of two-lane highway for the Federal Highway Administration–Eastern Federal Lands Highway Division. Design responsibilities included design of horizontal and vertical alignments, and preliminary drainage area calculations.

Interstate Route 70, Frederick County, Maryland. Design engineer for the proposed 2.5-mile section of eight-lane divided highway between Maryland Route 144 and Maryland Route 355. Responsible for revisions to design of the drainage system.

East New Market Streetscape, Dorchester County, Maryland. Design Engineer for proposed improvement of storm drain system and stormwater best management practice (BMP).

Andrew R. Holland, PE
Project Engineer

MD 214 at MD 468 Intersection Improvements, Anne Arundel County, Maryland. Design engineer responsible for completion of drainage and stormwater management analysis. Prepared a drainage report and stormwater management report for review by the Maryland State Highway Administration Highway Hydraulics Division and Anne Arundle County Department of Public Works.

MD 337 from MD 5 to Forestville Road, Prince George's County, MD / MD 198 from Eighth Street to Anne Arundel County line, Price George's County, MD / MD 586 from North of Randolph Road to Parklawn Memorial Park, Montgomery County, MD. Project engineer for resurfacing and safety projects. Responsible for reviewing field conditions, identifying required repairs to curb and gutter, sidewalk, pedestrian ramps, and drainage structures, and improvements to meet current design and safety standards, preparing construction cost estimate, construction specifications, and details.

MD 201 at Cherrywood Lane, Price George's County, MD. Design engineer responsible for design of drainage and stormwater management facilities required for roadway widening and intersection upgrades.

Baltimore Harbor Tunnel Maintenance Facility, Baltimore, MD, Governor Harry Nice Memorial Bridge Maintenance Facility, Charles County, MD. Project engineer responsible for site grading, erosion and sedimentation control methods, and design of preparation of bioretention chamber for stormwater management. Prepared report and plans for permit approval from the Maryland Department of the Environment.

Jessica M. Forse, PE
Civil Engineer

Education

- BSCE, Civil Engineering, 1999

Registration/Credentials

- Professional Engineer: NY#[redacted]

Employment History

- 2002-Present – Jacobs

Jessica Forse is responsible for project design and development as well as compilation of construction drawings including roadway layout, grading, drainage, utility design, construction staging, soil erosion and sediment control, and the preparation of site specifications and construction cost estimates.

Project Experience

Port Authority of NY & NJ, World Trade Center Streets, Utilities, and Related Infrastructure, New York, NY. Lead Civil Engineer for the design of the streets and infrastructure at the 16 acre World Trade Center Site. Responsibilities include design of the new roadway and utility network and extensive coordination with New York City Agencies including Planning, DEP, DOT, MTA and various other development projects on the site to define the surface and sub-grade design parameters. Additional project responsibilities include coordination for the installation of at-grade security devices and urban design features.

Port Authority of NY & NJ, **Civil Engineering "Call-In" 2002-2004.** Civil Engineer responsible for multiple assignments under a Civil Engineering "Call-In" agreement. The following projects are a representative sample of the assignments completed for the Port Authority:

- **JFK International Airport, Guard Post "R" Relocation and Reconstruction of North Hangar Road.** Designed site and roadway improvements in the vicinity of Guard Post "R" and North Hangar Road at the north side of the airport.
- **Newark Liberty International Airport, Brewster Road.** Provided design of additional roadway improvements along Brewster Road.
- **Jamaica AirTrain Station.** Prepared grading design of site features bounding the newly constructed Jamaica Station in the Borough of Queens, New York.

Port Authority of NY & NJ, Civil Engineering "Call-In" 1999-2001. Civil Engineer responsible for multiple assignments under a Civil Engineering "Call-In" agreement. The following projects are a representative sample of the assignments completed for the Port Authority:

- **Rehabilitation of the Approach Bridges to the Lincoln Tunnel.** This project included civil design for the rehabilitation of five approach bridges to the Lincoln Tunnel. Design services included grading, drainage, pavement rehabilitation and utility relocation and coordination.
- **LaGuardia Airport, Roads West of the Central Terminal Building Utility Design.** This project involved extensive utility rehabilitation and relocation due to the roadway reconstruction and realignment west of the Central Terminal Building. Design included drainage rehabilitation and relocations as well as the design of twin 24" water mains.

Somerset Development, Wesmont Station, Borough of Wood-Ridge, NJ. As project engineer, Ms. Forse is responsible for all aspects of the site design and permitting for the project as well as tasked with coordinating the site layout and design with the client, Borough, and project architect. The development included 737 residential units, in a mixture of single-family lots, townhouses, and multi-family mixed-use buildings. Also included in the 67-acre tract will be land for the construction of a recreation facility for multiple athletic fields and a future school building.

Avports, E. 34th Street Heliport, New York, NY. The project consists of the design of a new terminal building for the E. 34th Street Heliport and an upgrade of the entire heliport facility on Manhattan's eastside waterfront. Facility improvements include a new waterfront bikeway/walkway, a new hangar, an upgraded take off and landing area, and a view enhancing perimeter wall. Ms. Forse is responsible for the site design as well as coordination of the four project sub-consultants. Ms. Forse is also responsible for permit applications to the various New York City agencies including the New York City DEP, Department of Small Business Services, and the DOT.

FDNY Randall's Island Training Facility, New York, NY. Project Engineer for improvements to the New York City Fire Department Training facility at Randall's Island. This unique, multi-phased project involved the construction of one new training building and 2 new building additions at the FDNY's 20-acre training facility. Ms. Forse worked closely with various other project disciplines to ensure proper coordination of all project phases. As the Project Engineer, Ms. Forse was responsible for the design of all proposed site features including roadway design, grading, utility infrastructure and stormwater management designs.

S. Hekemian Kasparian and Troast LLC, Englewood Commons, City of Englewood, NJ. The project is mixed-use development in the City of Englewood including 350 apartment units, retail and office in seven separate buildings. Jacobs prepared design documents inclusive of site layout, roadway design, site grading, drainage, stormwater management facilities, utilities, lighting, and landscaping. The project was overwhelmingly received by the community and approved by the Englewood Planning Board. As a design engineer Ms Forse was involved in the preparation of application documents to the NJDEP and Bergen County.

Lowe's Companies Inc., Retail and Storage at King's Plaza, Borough of Brooklyn, NY. Site design of a ±90,000 sf Retail and Storage facility along the Mill Basin in Brooklyn. Other design services included a bi-level parking garage, site grading, stormwater management, utility systems and landscaping features. Ms Forse is involved in the permitting applications to New York City DEP for stormwater and sewer connections

NYS Department of Transportation, Design Phases I-IV for Route 347 Northern State Parkway to Route 25A, Suffolk County, NY. The project involves the preparation of a Design Report and environmental Impact Statement for 15 miles of roadway improvements, including widening one lane in each direction with increased width shoulders, the construction of 3 new interchanges, intersection improvements, environmental assessment, storm water management, public outreach, and community participation. Using Micro-Station V8 and In Roads, Ms. Forse's responsibilities include design and development of the horizontal and vertical alignment for the intersections as well as design of super elevations and transitions and typical sections.

NYC Department of Transportation, Manhattan Bridge Rehabilitation, Manhattan, NY. The Manhattan Bridge project included the rehabilitation of the lower roadway as part of a continuing maintenance effort on the structure by the NYCDOT. Ms. Forse's responsibilities included the design for the upgrade of the drainage system along the lower roadway and the rehabilitation design of the plaza and transition areas leading up to the suspended spans on both the Brooklyn and Manhattan sides.

Toby Kizner, AICP, PP
Environmental / Planning

Education

- MCRP, City and Regional Planning, Cornell University, 1991
- BS, Urban and Regional Studies, Cornell University, 1990

Registration/Credentials

- AICP – U. S.
- Professional Planner – NJ

Toby Kizner, Manager of Jacobs Planning Group in New York City, is responsible for project planning management on numerous multidisciplinary projects and public outreach for major transportation projects. Her previous assignments have successfully involved almost all aspects of planning including: public outreach; environmental impact assessment; transportation planning; zoning analysis; site planning; fiscal impact analysis and master planning. Ms. Kizner has directed major public outreach assignments for projects in New York City, Long Island and Upstate New York. She is particularly adept at developing outreach programs that inform, are inclusive, that communicate to underrepresented groups and that mediate conflict in a manner that advances a project towards consensus. Ms. Kizner has directed major assignments involving the comprehensive evaluation of land use, transportation, and environmental projects for both public agencies and private industry. Ms. Kizner has extensive experiences in preparing and processing environmental documents under NEPA, SEQR, CEQR and ULURP for all levels of government.

Project Experience

Hugh L. Carey Battery Park City Authority, Environmental Assessments – Redevelopment of Pier A and Contiguous Upland Area, New York, NY. Project Manager responsible for the preparation of a SEQR Environment Assessment Form and Supplemental Report for the redevelopment of the historic landmark Pier A and contiguous upland area in Battery Park City. Since several potential uses were under consideration for the structure's reuse, the environmental analysis assessed potential impacts of a range of tenants including the National Park Service, retain and restaurant uses, office, and museum activities. The analysis including detailed traffic and pedestrian analyses associated with the proposed tenants, as well as noise impacts associated with proposed ferry embarkation/debarkation from the site.

General Services Administration (GSA), Lease-Construction Project EAs, Jersey City, NJ. Preparation of NEPA Environmental Assessment. This study formally documented two locations under consideration for a lease-construction project for a Social Security Administration district office in Jersey City, NJ. This study included the preparation of two individual EAs to address the environmental impacts associated with each location.

GSA, Designation as Restricted Use Streets Two Locations in Lower Manhattan EAS and Supplemental Report, New York, NY. Preparation of Environmental Assessment Statement and Supplemental Report pursuant to CEQR guidelines. This study formally documented the environmental impacts associated with public street closures and security enhancements that were installed around the perimeter of federal buildings in Lower Manhattan following the events of September 11, 2001.

Dormitory Authority of New York, 462 First Avenue DASNY-Bellevue Hospital Center EIS, Manhattan, NY. Project Manager responsible for a SEQR-certified EIS for the construction of a new ambulatory care facility and DNA Laboratory at the Bellevue Hospital Center in Manhattan. This effort involved coordination with the Office of the Chief Medical Examiner (OCME) and the

NYC Health and Hospitals Corporation (HHC) to assess potential project-related impacts associated with he displacement of parking and the transfer of employees from the existing DNA laboratory.

Dormitory Authority of the State of New York, Staten Island Criminal Court and Family Court Complex Environmental Impact Statement, NY. Project Manager for an EIS for a new court complex located in the St. George section of Staten Island. Key project issues include the displacement of a municipal parking lot, a special permit application for the construction of a new parking structure and the historic significance of the project site, which was once used as a burial site for the former Marine Hospital/Quarantine Ground. Edwards and Kelcey is using a fast-track schedule to complete a street demapping ULURP action and SEQR review.

NYC Department of Design and Construction (DDC), Public Safety Answering Center II EAS, NY. Project Manager for expanded Environmental assessment Statement for the construction of a new Police Department 911 emergency answering center in lower Manhattan. As part of the assessment, a fair share analysis was conducted for closure of a municipal parking garage. Other key issues involved the potential for shadow impacts on Police Plaza, a well utilized urban open space resource, potential zoning nonconformities associated with some of the project alternatives, as well as potential traffic impacts resulting from the parking garage closure. The project involved coordination with several city agencies, including the NYPD, OCA, and DDC.

New York Metropolitan Transportation Council, Regional Freight Study, New York, NY. Project Manager for this inventory and analysis of freight corridors within the NYMTC region. The NYMYC Freight Study will identify potential alternatives for improving the flow of goods into, out of, and through the region. Responsible for activities including preparation of Internal Scan of current an past freight planning efforts in the New York region, as well as an environmental scan of all freight corridors, including highway, rail, air, port and intermodal facilities. Responsible for client contact, assigning resources and keeping the study budget and schedule.

New York Metropolitan Transportation Council, Operation and Enhancement of the NYMTC Public Involvement Program, New York, NY. Project Manager responsible for leading efforts to implement and expand the public involvement program for the New York Metropolitan Transportation Council (NYMTC), the Metropolitan Planning Organization for New York City, Long Island, and the lower Hudson Valley. A significant goal of the program is to seek out individuals and groups not previously involved in planning to educate them on the future of transportation in the region and to integrate their input into the planning process. Responsible for activities including maintaining the mailing list database, coordinating media coverage and protocols, organizing public events, developing a guidebook for public involvement, and annually evaluating and recommending improvements to the public involvement program. Responsible for client contact, assigning resources and keeping study budget and schedule.

New York City Economic Development Corporation, Strategic Plan for the Redevelopment of the Port of New York, New York, NY. Public Outreach Specialist for the development of a strategic plan for the redevelopment of the Port of NY. Ms. Kizner was responsible for the development of the outreach plan, identification of stakeholders, media relations, newsletter and fact sheet development, data base management, etc. during this high profile project. A major component of the effort was focused on identifying and communicating with port users as well as communities directly adjacent to strategic facilities that might be disproportionately impacted by these facilities.

Randall K. Sprague, PE, PP, CVS
Constructability

Education

- MS, Construction Management, 1981
- BS, Civil and Environmental Engineering, 1971

Registration/License

- Professional Engineer in NY and NJ
- Professional Planner in NJ
- Certified Value Specialist

Randy Sprague is the Senior QA/QC Officer for Jacobs. He has over thirty years of project management and value engineering, construction, constructability analyses, design engineering, claims consulting experience and cost estimating. He has worked for design firms, contractors and project/construction management consultants. His project experience includes schools, hospitals, offices, hotels, and high-rise buildings, water and wastewater treatments systems, power and co-generation plants, industrial and transit facilities, and military installations.

Quality Officer for Jacobs responsible for overseeing the company-wide quality program, which includes maintaining the Jacobs Quality Manual, quality reviews and quality audits. Regional Quality Managers assist Mr. Sprague in the implementation of the overall quality program. The Quality Program is continually monitored to address client needs, updates to technology and changes in the way work is contracted. The quality program is structured to address the entire range of project size and diversity of services provided by Jacobs, including joint venture contract obligations.

Project Experience

Amtrak ARRA Amtrak Improvements Project, Nationwide. National Quality Manager for the $550 million Amtrak Improvement Project, which is the rehabilitation of over 300 Amtrak stations and facilities throughout the continental United States. Established and implemented the quality program for Jacobs and all design-build contractors. Scope of work per facility cumulatively included track improvements, vehicle maintenance facilities, ADA compliance, mobility first, platform replacement, security systems, bridge replacement and other needs. Jacobs is to develop the bridging documents than contract all work as design-build contracts. The program is funded by federal stimulus package, which all work is to be performed in approximately 18 months. Construction is performed by approximately 50 design-build contracts, all of which are retained by Jacobs.

MTA Metro-North Railroad Harmon Shop Phase II, Croton-Harmon, NY. Quality Manager for the design-build construction of a new wheel truing facility at Harmon Yard. Established, implemented and managed the quality program of the joint venture responsible for all design-build construction activities.

MTA Metro-North Railroad Harmon Wheel Truer Facility, Croton-Harmon, NY. Quality Manager for the design-build construction of a new wheel truing facility at Harmon Yard. Established, implemented and managed the quality program of the joint venture responsible for all design-build construction activities.

MTA Long Island Rail Road, Arch Street Yard/Shop, Design/Build, Queens, NY. QA/QC Manager responsible for establishing and implementing the ISO compliant QA/QC program for the $76 million design/build project in which Jacobs was a joint venture partner. The quality control program was inclusive for all project design/build services including design, construction,

procurement, sub-consultants, subcontracting and commissioning. Field operations were monitored and documented on a continuous basis by the Quality Manager's support staff.

MTA Metro-North Railroad, Highbridge Yard-Design/Build, Bronx, NY. QA/QC Manager responsible for $75,000,000 design-build project in Jacobs was a joint venture partner. He prepared an ISO 9000 compliant, project specific QA/QC manual, which was approved by Metro-North Railroad. QA/QC procedures were developed and documentation monitored as the project progressed from the preliminary design stage into final design and field construction. As joint venture partner and lead engineer, Jacobs' primary design responsibilities included civil (under- and above-ground utilities), trackwork, traction power, third rail, structural (shop and substation foundations, building and roof structures, high level platforms, and overpass), systems integration, and communications system, CCTV cameras and a security system which is integrated with the fire protection system. The quality control program was inclusive for all project design-build services including design, construction, procurement, subconsultants, subcontracting and commissioning. Field operations were monitored and documented on a continuous basis by the Quality Manager's support staff.

NJ Dept. of Transportation, Route 21 Reconstruction, Newark, NJ. Project Manager responsible for the development plan for maintaining sanitary interceptor flow during construction of Route 21 realignment and improvements. Portions of the interceptor sewer area to be reconstructed and the interceptor system remained functional as Route 21 was reconstructed. Jacobs was responsible for roadway widening and relocation in downtown Newark, from Green Street to north of Passaic Street. This project included the development of an interactive traffic communications and management system, to decrease delays and improve safety within the Route 21 corridor in the City of Newark, County of Essex.

New York State Department of Transportation, Miscellaneous Value Engineering Services, All Regions, Various Locations, NY. CVS Team Leader for several highway value engineering studies. Jacobs provided task order Value Engineering services to NYSDOT under it's second consecutive two-year term agreement. From 2001-2003, Jacobs conducted nine VE studies statewide, on projects including new highway alignments and bus lane additions, highway widening and reconstruction projects, and major viaduct and bridge structure rehabilitations and replacements.

MTA Bridges and Tunnels, 2001-2005 Value Engineering Services, New York, NY. CVS Team Leader for these on-call VE services. Jacobs provided full value engineering teams to conduct studies for the Triborough Bridge and Tunnel Authority Capital Projects from 2001-2005. Assignments included: Task 1 - Value Engineering Review for Project BW-82, Suspended Span Roadway Deck Replacement; Task 2 - Value Engineering Workshop on the Cable Strand Re-Anchoring work under TB-66 for the Triborough Bridge; and Task 3 - Value Engineering Study for Project MP-08, New Administration Building at Marine Parkway Bridge.

John Pavlovich, PE
Planning & Traffic Engineering

Education

- MBA, Operations Planning, 1978
- MS, Transportation Planning / Engineering, 1973
- BE, Civil Engineering, 1972

Registration/Credentials

- Professional Engineer: NJ

Employment History

1985–Present – Jacobs
1982–1985 - NY Metropolitan Transportation Council
1978–1982 - Tri-State Regional Planning Commission
1975–1978 - Raymond Parish Pike
1974–1975 - Barton Aschman Associates
1973-1974 - Green Associates

Mr. Pavlovich has 37 years of diversified and progressively responsible experience in transportation planning and traffic engineering in both the public and private sectors. He has managed large scale programs and projects requiring comprehensive planning and logistics, traffic demand analysis, traffic assignment, and traffic forecasting. John has been responsible for technical oversight on other projects in the tri-state area dealing with the movement of commuters, traffic impacts on communities, and the interrelationship of land use and transportation systems.

Many of Mr. Pavlovich's assignments involved working with multi-tiered policy and advisory committees. He has also been directly involved in community involvement activities on large-scale projects including major highway studies, environmental impact studies, and other transportation projects that involved sensitive community issues. Maintaining traffic flow during roadway construction was a major issue on many projects.

Other Jacobs projects managed by Mr. Pavlovich include access studies for airports, transit stations, and stadiums; analyses of urban commuter patterns; simulation of maintenance and protection of traffic plans for staged construction on complex projects; and evaluations of alternative transportation modes. He also managed the Hybrid Signage Project for the Lincoln Tunnel.

Project Experience

PANYNJ, Trans Hudson River Crossing, NJ. Project Manager responsible for management of entire assignment for developing traffic flows and commuter patterns on six Hudson River crossings. Included were data collection programs such as passenger and vehicle counts, turnstile readings, Lincoln Tunnel Exclusive Bus Lane (XBL) travel time surveys, travel attitude survey, and the first origin and destination survey of reverse peak travel commuters.

NYSDOT, Alexander Hamilton Bridge Rehabilitation Project, New York City, NY. Task Leader responsible for analyzing traffic operational issues associated with the staged rehabilitation of the AHB. The objective was to maintain the full compliment of travel lanes in each direction during construction. Traffic simulation was used to assess six construction stages and evaluate multiple MPT measures and strategies in each stage to maintain traffic flow through the I-95 corridor. Measures of Effectiveness (MOEs) were generated for each MPT scheme for final plan selection. Study products included detailed technical memoranda, presentations to stakeholders including PANYNJ, NYC OCMC and the members of TRANSCOM. Traffic forecasts were developed and level of service analysis performed for the roadway segments in earlier project phases. These efforts provided essential input in the development of the improvements.

PANYNJ, NJ Turnpike 16E/17E - Lincoln Tunnel Comprehensive Signage Improvement Program, NY, NY. Team Leader responsible for technical aspects of the project including preparation of planning studies and conceptual design of motorist signs and structures related to the Lincoln Tunnel. Services being performed include field inspection of all signs maintained by PANYNJ at the Lincoln Tunnel, and development of a Stage I Conceptual Plan Sign Program to enhance effectiveness of conveying information to these motorists.

John Pavlovich, PE
Planning & Traffic Engineering

PANYNJ, Traffic Engineering Call-In 2007-Present, NYC Metropolitan Area. Project Manager and Lead Traffic Engineer responsible for preparation of technical scopes and budgets in response to Authority task order requests and managing the study effort. Mr. Pavlovich has managed the following task order assignments to date: PABT Bus Operations Study; Dey Street Traffic Simulation; LaGuardia Airport Traffic Survey; Newark Liberty Airport CUSS Survey; and the Inland Ports Terminals Study. These assignments have involved developing and executing data collection programs, training and mobilization of field crews, data tabulation, and analysis. The PABT task order involved the use of PDA devices to obtain time-synchronized bus observation data at multiple points; the Dey Street Simulation included development of a 3-D simulation model of the WTC redevelopment area using a VISSIM software platform; and LaGuardia Airport involved developing a balanced traffic flow map using an Excel spreadsheet on a GIS platform.

PANYNJ, Inland Port Truck and Rail Shuttle Terminal Study. Project Manager - Working for the Port Authority Department of Ports and Commerce. Jacobs examined the potential feasibility of establishing a major inland port that would, in turn, "free-up" valuable space at the Port of Newark and Elizabeth. This study required a series of extensive interviews with freight carriers and warehousing concerns within the region to understand their existing operations as well as their future plans. Ten locations within New Jersey, Pennsylvania, and New York were reviewed in detail to understand their feasibility as potential sites. Major tasks undertaken during this study include screening for physical site viability; industry outreach; economic viability; development of prioritized list of sites; and detailed site assessment. Industry outreach was crucial to this study and afforded Jacobs an intimate understanding of the trends and practices in the industry. These efforts allowed the project team to identify the most desirable locations for an inland port and prepare a detailed case study for three individual sites.

BLRA, MOTBY Transportation & Sustainable Land Use Study, Bayonne, NJ. Project Manager/Client Manager/Task Manager responsible for the transportation efforts associated with the proposed redevelopment of the former Military Operations Terminal in Bayonne. Work elements included the formulation and analysis of regional access alternatives between NJ Turnpike Interchange 14A, State highways, and the site; rail access for goods movement; transit mobility on the 1.9-mile long Peninsula; and the development of an on-site street grid to support the uses presented in the redevelopment plan. Development of transportation models to replicate the existing transportation infrastructure and to test various roadway and transit alternatives. Traffic planning involving vehicle trip generation, trip distribution and traffic assignment was used to develop trip table and logical vehicle paths for use in the simulation modeling of the study area. Also responsible for preparation of Highway Access Permit and support documentation.

NYSDOT, TRANS Manhattan Expressway, New York, NY. Traffic Engineer responsible for evaluating traffic issues and solutions to improve the connector ramp between the Harlem River Drive and I-95. This interchange consists of a series of merge points on curves carrying 60,000 vehicles daily. As Task Leader, Mr. Pavlovich was responsible for technical oversight of data collection, traffic analysis and traffic demand forecasting of alternative assessments, and providing traffic results and assessing MPT strategies.

NYSDOT, Route 6/6N Corridor Planning Study, Putnam & Westchester Counties, NY. Project Manager responsible for conducting a corridor study to assess current and forecasted mobility needs for Routes 6 and 6N. The study inventoried existing transportation system conditions, forecasted future conditions, identified existing and future needs, and conducted traffic simulation to assess short/long-term alternative solutions/strategies to address identified needs. Study documentation included detailed technical memoranda, final corridor study reports, conceptual plans and layouts.

Robert K. Craig, CPP
Security

Education

- Electrical Engineering

Registration/Credentials

- ASIS – Certified Protection Professional (CPP)

Mr. Craig has been mastering the art of protection engineering for more than 20 years. He has provided security consulting and design services to a variety of clients serving municipal, state, and federal agencies. Mr. Craig is Board Certified as a Certified Protection Professional (CPP) – the only recognized security professional certification. His expertise extends into the design of fire protection systems, allowing for resolution of life safety and security conflicts in each design project. He brings extensive design experience in sophisticated electronic security systems. Mr. Craig's designs capabilities include integration of Anti-terrorism/Force Protection countermeasures with the hard and softscape designs of facilities. Mr. Craig's expertise extends to design of traditional electronic entry control, explosives and weapons screening, intrusion detection, duress, intercommunications, electronic article surveillance, and closed circuit television systems and has experience in numerous business sectors including: water, transportation, defense industrial, energy, information and technology/telecom, public health and Homeland Security.

Project Experience

Florida Turnpike Enterprise (FTE), Orlando & Pompano Beach, FL. Senior Security Specialist for developing a security training program for approximately 400 field and office personnel to help protect FTE property, assets, staff, and customers.

Florida Turnpike Enterprise, Statewide. Senior Security Specialist for conducting Threat and Vulnerability assessments through out 245 miles of surface roadway assets.

St. Louis Gateway Transportation Center, St. Louis, MO. Senior Security Specialist responsible for threat assessment, security design, and emergency operations planning.

Regional Transportation Commission (RTC) of Southern Nevada, Las Vegas, NV. Security Advisor to RTC security staff with developing the RTC's CityWatch.US™ database. The CityWatch.US™ is a comprehensive system consisting of several interrelated components. These components are site-based Threat & Vulnerability Assessment (TVA), Security Operations & Plans, site-specific Training, Drills, Exercises & Incidents to validate the security operations and the training, and most importantly, a Leadership & Management component that allows for visibility into each asset, as well as the system as a whole.

Regional Transportation Commission (RTC) of Southern Nevada, Las Vegas, NV. Security Advisor to RTC for the development and implementation of the UAW-Daimler Chrysler 400 NASCAR Race Citizens Area Transit Depot Operations Emergency Action Plan. The objective of the plan was to ensure RTC's readiness to provide logistical support services to the Clark County Emergency Operations and the Las Vegas Motor Speedway for mass evacuation of the area.

Federal Aviation Administration, Nationwide. Security Specialist on various FAA facilities nationwide for security and blast analyses of TRACON and ARTCC designs. The analyses included recommendations for improved facility performance as setback requirements and perimeter security components. Advised on modifying the structural column spacing for the TRACON (or MCF) Standard Design to accommodate more stringent blast-resistant design should future site

adapts at specific locations require higher levels of protection. The new exterior metal and glass curtain wall design for the ARTCC administration wing rehabilitation standard design took into account recommendations for enhanced blast performance.

Chicago Skyway, Chicago IL. Senior Security Specialist for the Chicago Skyway toll highway. The services involved a physical security survey of the property to evaluate existing security conditions and procedures and submit recommendations for improvements.

Air Force Civil Engineering Support Agency (AFCESA), Gainesville, FL. Project Security Consultant responsible for development of a threat and risk assessment for United States Air Force installations worldwide. The assessment was used for the development of evacuation schemes and procedures. The results of the assessment were used as the basis for the DoD Antiterrorism Construction Standards mass notification systems security documents.

Lucent Technologies Corporation, Mt. Laurel, NJ. Security Specialist for physical and technical security systems evaluation of 17 sites throughout the United States. Project included a Master Plan for development of a single access card credential integrated with various manufacturers of security equipment.

Lucent Technologies Corporation, Mt. Laurel, NJ. Security Specialist for physical and technical security systems evaluation of three research and development sites in the United State and Europe. Project included a Master Plan for development security improvements for each of the three facilities.

NIAID Integrated Research Facility, Fort Detrick, MD. Security advisor to the construction management team for all security related designs. Conducted reviews all relevant design documents for compliance with Department of Defense security design standards and constructability of those designs.

United States Department of Treasury Headquarters, Washington, DC. Project Manager responsible for security system and life safety code issues. Developed threat assessment and security analysis for security program to be used as the basis of design for the facility. Systems design included pedestrian/ vehicular electronic entry control, intrusion detection, video surveillance, blast mitigation and anti-vehicular assault systems.

Department of Watershed Management (DWM), Atlanta, GA. Senior Security Specialist for conducting a security feasibility study for Hemphill Water Treatment plant. The study included an operational analysis, security countermeasure plan, and site visits to check physical security at each of its facilities including and a review of existing security and access control systems for incorporating the use of sensor and detection equipment, CCTV and remote sensing of plant activities.

Richard A. LaRuffa, PE, CVS
Team Building / Risk Management

Education

- MS, Mechanical Engineering, 1968
- BES, Engineering Service, 1966

Registrations/Licenses

- Professional Engineer in NJ and NY
- Certified Value Specialist (CVS)

Rich LaRuffa has served as Project Director, or Project Manager, overseeing project teams with up to 40 staff members. Assignments included P/CM, construction claims analysis and prudency audits, Value Engineering, Constructability Reviews, CPM scheduling, and cost estimating on projects ranging from $0.5 million to $3.2 billion. Projects include high-rise buildings, hospitals, sewage treatment plants, highways, bridges, airport, rail and bus systems, transportation facilities, prisons and courthouses, educational facilities, golf clubs, auditoriums and banquet halls, refineries, and industrial and power generation plants.

A Life-Certified Value Specialist, Mr. LaRuffa has been actively involved in Value Engineering for more than 30 years. He has participated in over 200 VE workshops, as team member or team leader. Mr. LaRuffa has presented seminars on project management and value engineering, and teaches the one-week SAVE certified Module I VE Training course, and an 8-hour 'Introduction to Principles of VE', both of which are approved for professional development hours toward PE license renewal in New York State.

Project Experience

Port Authority of NY & NJ, Homeland Security Upgrades VE Studies, Newark, NJ. VE Team Leader on confidential VE studies for Homeland Security Upgrade projects at all PA NY&NY airports and PATH system tunnel infrastructure.

Port Authority of NY & NJ, JFK International Airport, New York, NY: Value Engineering Team Leader for a Value Planning Workshop on the design of a restricted service road for fuel operations at the Port Authority's JFK airport. The project included construction of a new RSR overpass across the Van Wyck Expressway.

MTA Bridges and Tunnels

- ***Triborough Bridge, NY, NY:*** The Triborough Bridge complex, centered on Randall's Island, includes a mile-long viaduct structure with a suspension bridge to Queens, a battle-deck bridge to the Bronx and a lift-span bridge to Manhattan. Mr. LaRuffa directed eight VE studies for TBTA, for rehabilitation/replacement of deck structures throughout the various bridge spans and ramp network, for replacement and expansion of the main toll plazas and service buildings, for rehabilitation of the cable anchorage structures for the Queens suspension span, for cable replacements at the Queens span, and rehabilitation of the lift span bridge section over the Harlem River. Total project costs exceed $800 million.
- ***Verrazano Narrows Bridge, NY, NY:*** Directed a VE review for a service building expansion to house toll collection, security, and engineering operations, and a new boiler plant to distribute glycol hot water to the plaza toll booth heating system. He also conducted a study to relocate all utilities on the lower deck as the first phase of a program to replace both deck structures.
- ***Brooklyn Battery Tunnel, NY, NY:*** Directed a VE study of the proposed roaddeck rehabilitation project. The project included roadway drainage, and rehabilitation of catwalk structures.
- ***Henry Hudson Bridge, NY, NY:*** Directed a VE/constructability review of the proposed staged construction to replace the lower deck while maintaining traffic.

- ***Bronx-Whitestone Bridge, NY, NY:*** Directed a VE review of a total deck replacement, including structural rehabilitation of deck framing, new utilities and fire line across the bridge, and a second study to replace the north approach to the bridge that include partial grade and viaduct structures.
- ***Marine Parkway Bridge, NY, NY:*** Directed a VE review of a new service building and garage for toll collection, security, engineering and vehicle maintenance operations, and a new boiler plant to distribute glycol hot water to the plaza toll booth heating system.

Connecticut Dept. of Transportation:

- ***Route 34 Highway Extension, New Haven, CT:*** Lead VE review of $18 million preliminary design of a 2.2km roadway section including passage under major cross streets, retaining walls, street overpass bridges and utility relocations.
- ***Sikorsky Bridge Replacement, Milford, CT:*** Lead VE for review of the $85 million replacement of the Sikorsky Bridge as proposed by Connecticut DOT. The team reviewed concrete and steel alternative designs.
- ***I-84 Realignment, Widening and Interchange Improvements, Waterbury-Southbury, CT.*** Lead two parallel VE studies reviewing the approximate 9-mile project that involved seven overpass interchanges and two river crossings. All overpass structures were being replaced as part of the interstate widening and realignment on this $170 million project that involved three separate design packages.
- ***Rehabilitation of the Walk Swing Bridge, Norwalk, CT (CTDOT):*** Conducted a VE study to review preliminary design to reinforce structure and replace mechanical/electrical systems for the 4-track swing bridge serving MetroNorth Railroad, Amtrak and Conrail.
- ***Rehabilitation of the Saga Bascule Bridge, Westport, CT (CTDOT):*** Conducted a VE study to review preliminary design to replace the 4-track bascule rail bridge as part of MetroNorth Railroad New Haven Line Upgrades.
- ***On-Call Constructability and VE Services:*** Jacobs currently serves as VE sub-consultant to HNTB on a 5-year task order contract. To date, Mr. LaRuffa has lead 2 VE workshops, Rehabilitation of the Commodore Hull Bridge in Shelton/Derby, and I-84 Auxiliary Lanes Addition in West Hartford.

New York State Dept. of Transportation

- ***Van Wyck Expressway Bridge Rehabilitations:*** Lead VE Team review of design to rehabilitate four bridges and improving northbound mainline traffic. Work includes replacing decks, bearing seats, damaged steel and decks, rehabilitate all abutments . All existing steel will be cleaned (lead-abated) and painted, and a pedestrian bridge replaced and relocated approximately 200' further north.
- ***Roslyn Viaduct Replacement, Hempstead, NY:*** Lead VE Team review of design for the viaduct replacement. The existing viaduct is a four-lane structure with concrete piers on wood pile-supported foundations, a steel superstructure and concrete deck roadway. Six alternatives, ranging from $62-$85 million were reviewed.
- ***Brooklyn-Queens Expressway Park Avenue Viaduct, Brooklyn, NY:*** Lead VE Team reviewing preliminary design to replace approximately 1 mile of viaduct. The deck replacement includes widening work (approximately 2 feet each side), replacement of all expansion joints, replace steel railings with single slope concrete barriers, and drainage revisions for the revised elevated roadway cross-section. Seismic improvements, fatigue upgrades and lead abatement are also proposed for the structure. Estimated project cost $85 million.

Stanley Grill
Business Analysis

Education

– BM, MM

Registration/Credentials

CPPBP

Stan Grill is an experienced public transportation executive. He has over 30 years of extensive experience implementing technology and strategies to achieve savings and a comprehensive understanding of complex contract negotiations and project management. His core competencies include strategic sourcing, negotiations, vendor management, supply chain management, cost/price analysis, federal contracting regulations, procurement best practices and process re-engineering. Stan is a dynamic, insightful executive with a record of achieving steady improvements in performance and a strong ability to restructure organizations and motivate staff to maximize effectiveness.

Project Experience

Amtrak Improvements Project.
Project Chief Procurement Officer responsible for all aspects of the procurement team supporting the Amtrak Improvements Project. Provides procurement services and contract administration support for the design/procurement/construction of over 400 Amtrak projects nationwide. Develops procurement packages that best meet the needs of Amtrak in regard to procurement process, timeliness and cost effectiveness.

Previous Experience

MTA New York City Transit, Materiel Division, New York, NY.
Vice President responsible for procurement, material planning, contract administration, cost analysis, asset management, world-wide inspection and testing, vendor relations, inventory management and procurement policy. Processed over 30,000 procurement requests valued at $1-3 billion annually including major capital acquisitions, maintenance equipment/materials, professional and other services. Represented the agency before the MTA Board as well as in various national, state, and local forums. Worked with agency department heads to develop sound business strategies. Major acquisitions included: outsource contracts for transportation services for the disabled, expansions of the NYC subway system, new technology buses and subway cars, automated signaling and train control systems. Accomplishments included achieving annual savings of $200+ million through effective negotiations and sourcing initiatives, significantly reducing procurement lead-times by re-engineering and automating procurement processes, driving persistent problems in vendor quality and late deliveries to a minimum by implementing an effective vendor management program, ensuring timely delivery of maintenance material requirements through effective logistics analysis and implementation of a material planning services function, introducing innovative strategies better suited to the acquisition of new technology and improving service delivery by centralizing management of agency wide contracts.

MTA New York City Transit, Materiel Division.
Chief Procurement Officer responsible for directing staff who wrote solicitation and contract documents, qualify contractors, negotiate, expedite delivery of goods, and perform cost/benefit analyses and market research. Streamlined the procurement process to cut lead-times by over 30% while reducing staff by 25%. Gained acceptance of procurement as a strategic business partner by emphasizing customer service and achieving operational objectives.

Stanley Grill
Business Analysis

MTA New York City Transit, Transit Adjudication Bureau.
Executive Director responsible for directing the enforcement of over 300,000 summonses issued annually for violations of transit rules. Managed a staff of 90 to collect fines, conduct hearings and appeals, operate a mainframe summons processing system and provide public information. Developed effective policing strategies that drastically reduced fare evasion and the incidence of quality of life violations on the transit system. Implemented an automated collection system to increase revenues sufficiently to offset agency costs.

James P. McCarty, PE
Construction Inspection

Education

- BS, Civil Engineering, 1985

Registration/Credentials

- Professional Engineer: CA; VA (pending)

Employment History

1985-Present - Jacobs

Jim McCarty is experienced in the design and construction inspection of bridges, tunnels, retaining walls, and roadways, including maintenance and protection of traffic. His expertise includes reinforced concrete, prestressed concrete, structural steel superstructure, substructure and retaining wall design; preliminary design and layout of bridge structures; and construction management of bridge, retaining wall, and at-grade roadway projects.

Project Experience

National Railroad Passenger Corporation (Amtrak), Nationwide Program Management for Designated American Recovery and Reinvestment Act Projects (ARRA). As Northeast Regional Construction Manager, responsible for construction management of the design/build improvement projects in the northeast U. S. (Washington, D. C. to Boston, MA). The design/build contracts include but not limited to the expansion of the high-speed rail shop to include a drop-table, bridge repair and painting, station improvements, remodeling of police department offices, paving of parking lots and security improvements (CCTV systems, fencing, K-12 bollards, CBRNE analysis). Also responsible for the supervision of the construction management staff on nine contracts covering ten states. The construction management staff was responsible for ensuring that the design/build contractor's constructed the projects to the requirements of the contracts.

Chesapeake Bay Bridge and Tunnel Commission, General Consultant Engineer. As Emergency Response Manager and Deputy Project Manager, he is on call for any emergency response and incident management required on this toll facility. Timeliness of response and flexibility to constantly varying conditions is a requirement of this assignment. He also is responsible for the annual condition assessment of the entire facility including pilings, piers, tunnels, bridges, artificial islands, roadways, toll facilities and maintenance facilities.

Virginia Dept. of Transportation, Hampton Roads District-wide CEI Contract. Project Coordinator responsible for training and assigning qualified construction inspection staff. Professional Services value: $3M.

Virginia Dept. of Transportation, Lynchburg District, Madison Heights (Route 29) Bypass . Project Coordinator responsible for training and assigning qualified construction inspection staff for construction of 4.7-miles of roadway on new alignment, three bridges and five major box culverts, in an environmentally sensitive area adjacent to the James River near Lynchburg, VA. The construction cost of the project is $43M.

Benning Road Bridge Replacement over the Anacostia River. Project Coordinator and engineer in charge of project responsible for maintaining the proper construction inspection staff and client satisfaction for this $28M project involved the phased construction for an eight-lane bridge replacement on the same alignment. Specific relevant experience included metric construction drawings, FHWA's guidelines, extensive Maintenance Of Traffic (80,000 vehicles/day), progress payments, change orders, and inspection experience with continuous span steel plate girders superstructure with a cast-in-place concrete deck, concrete piers within the river, steel H-piles, and

sediment and erosion control in highly sensitive environmental areas. Relocation of gas, high-volt electric, water and telephone were included.

Federal Highway Administration, Eastern Federal Lands Division, Indefinite Delivery Indefinite Quantity Contract for Construction Inspection in the District of Columbia. Project manager for this $20M on-call delivery order contract for construction inspection with in the District of Columbia. He is responsible for the management of the construction inspectors for multiple delivery orders on FHWA/EFLD construction contracts for roadway and bridge construction.

Columbia Department of Public Works, Rehabilitation of New York Avenue Bridge over South Dakota Avenue and Amtrak, Washington, D. C. Project Coordinator and the engineer in charge responsible for maintaining the proper construction inspection staff and client satisfaction for the $30-million bridge rehabilitation project. The project involved six-phases of construction and maintenance of traffic on a main artery for computer traffic into the District of Columbia. This roadway has an average daily traffic (ADT) count of 135,000 vehicles.

Virginia Dept. of Transportation, Route 125 (King's Highway) Bridge Replacement, City of Suffolk, VA. Provided constructability review for the replacement of the Route 125 Bridge over the Nansemond River and its approaches.

Virginia Dept. of Transportation, Route 642 (Lorton Road) and CSX Railroad, Lorton, VA. Project Coordinator responsible for maintaining the proper construction inspection staff for the replacement of an existing CSX railroad bridge and the widening of Lorton Road (Route 642).

Chesapeake Bay Bridge and Tunnel Commission, Parallel Crossing of Chesapeake Bay Bridge, Virginia Beach to Cape Charles, VA. Assistant Resident Engineer responsible for the construction management of the at-grade roadways and bridges for the parallel crossing to the existing Chesapeake Bay Bridge-Tunnel, rehabilitation of portions of the existing structure, and temporary maintenance of traffic. Also responsible for notice of intent analysis and for the coordination of a staff of up to 35 inspectors. The bridge consists of approximately 12.44 miles of low-level trestle spans consisting of primarily prestressed concrete girder superstructure with precast concrete bent caps and large diameter cylinder pile foundations; approximately 0.67 miles of structural steel plate girder spans with cast-in-place concrete piers and large diameter cylinder pile foundation; and approximately 3.39 miles of at-grade roadway and causeway. The project also entails toll plaza reconstruction; rest stop building construction; and rehabilitation of the existing structure upon completion of the new structure. The project construction cost is approximately $200 million.

Missouri Highway and Transportation Department, Route 36 Bridge over the Mississippi River, Hannibal, MO. Deputy Project Manager/Designer/Design Checker for the 4,485-foot-long bridge over the Mississippi River at Hannibal. The main span is a 640-foot-long simple-span truss with both steel plate girders and prestressed concrete I-girders for the approaches. Designed steel plate girders, river piers and land bents, and checked simple-span truss and bearings.

Stephen B. Lathrop, PE
Sustainability

Education

- M.S., Civil Engineering, 1996
- B.S., Civil 1995

Registration/Credentials

- Professional Engineer: CA & GA

Mr. Lathrop has over 14 years of experience in finding innovative and cost-effective solutions to geotechnical, environmental, and sustainable projects. Additionally, Mr. Lathrop is a seasoned project manager and project controls engineer managing projects ranging in size up to several million dollars in scope. Mr. Lathrop has successfully completed and numerous projects for clients ranging from municipal solid waste, construction and demolition, and hazardous waste landfills; wastewater utilities; municipalities; developers; and agricultural chemical distributors. Mr. Lathrop is capable of applying organizational skills to effectively manage a project team for successful and timely project delivery, as well as having the technical knowledge to complete projects including greenhouse gas accounting and credits; monitored natural attenuation, in situ bioremediation, groundwater remediation, and environmental compliance.

Project Experience

Environmental and Sustainable Engineering

- Performed landfill gas modeling to evaluate gas generation rates for use in landfill gas-to-energy project evaluations for several landfills in Georgia.
- Performed economic feasibility evaluations for a landfill gas-to-energy project and additional environmental revenues from carbon credits, production tax credits, and renewable energy certificates for a landfill in Columbia County, Georgia. Developed a RFP for the project and facilitated project vendor evaluation and selection for landfill gas project development.
- Currently performing a carbon footprint analysis for a wastewater treatment facility in Florida for use in future planning of facility expansion with regard to carbon footprint implications
- Implemented detailed hydrogeologic investigations for a full-scale denitrification design work to hydraulically contain, extract, and denitrify nitrate-impacted groundwater beneath a 270-acre biosolids application field.
- Developed a constructed wetlands treatment pilot-scale project to field measure the effectiveness of wetlands to reduce high nitrate concentrations from impacted groundwater.
- Investigated and delineated nitrate and ammonia impacts in soil and groundwater at a former LAS in north Georgia.
- Designed, constructed, operated, and interpreted data from experimental system for measurement of nitrate reduction rates for a site in Columbus, Georgia. The innovative system included on-site columns for the controlled reduction and measurement of nitrate contamination. Additionally, the project included groundwater modeling and complex regulatory compliance issues intended to achieve a unique and acceptable nitrate management solution.
- Project Engineer for a pilot-scale field test using Hydrogen Release Compound (HRC) to enhance in-situ biodegradation of chlorinated solvents, pesticides, and inorganic contaminants at a retail chemical facility in Northern California.
- Designed and managed operation of a groundwater extraction and treatment system for fertilizer and pesticide impacted groundwater at a site in Northern California. Following treatment, the water was permitted for discharge under the requirements and restrictions of a completed NPDES permit.

- Designed and supervised installation of a geosynthetic vapor barrier for use in the mitigation of organic vapor transport beneath the subgrade of a laboratory building near San Francisco, California.

Geotechnical Engineering

- Project Lead for mitigation of differential settlement along a major, 40-in. petroleum pipeline in Sandy Springs, Georgia. The pipeline crossed a formerly unknown section of a municipal solid waste landfill and needed to be stabilized. The project included field investigations, assistance with local regulators, stabilization alternatives assessment, settlement analysis, construction quality assurance, and reporting.
- Analyzed soil and structural data and produced a report for evaluation of settlement stresses induced in a major petroleum pipeline located in Tennessee.
- Performed multiple civil engineering tasks including preliminary road layout, cut and fill estimating, and reclamation cost estimating for conversion of the former Bellwood Quarry to the City of Atlanta's approximate 2-billion gallon Bellwood Reservoir.

Environmental Compliance and Permitting

- Project Lead for RCRA Part B Permit Application renewal for Chemical Waste Management's Emelle, Alabama hazardous waste landfill in 2002 and 2009. The project included updating and verifying approximately 18,000 pages of text, tables, and figures and then reorganizing the information onto an interactive CD. The new CD format was suggested by JJG and allowed the client to easily view all site data, perform searches on all data, and linked the documents together into an easily navigable format.
- Completion of a revised and updated NPDES permit for the Chemical Waste Management, Emell, Alabama facility.
- Reorganized and redeveloped JJG's landfill compliance program including hiring 3 key new staff, development of tracking and quality assurance procedures, and training of staff to perform and run the system. System development led to award of new work from existing and new clients.
- Completion of multiple Spill Prevention Countermeasure and Control (SPCC) plans for clients across the southeast.

Project Management and Controls

- Performed project management and project controls duties for the $33 million West Area CSO tunnel, the $2.7 million Bellwood Quarry project, and the $3.3 million South River CSO tunnel. Management and controls included invoicing, progress reporting, staff meetings, financial and schedule projections, and updating and projections for joint venture partners.
- Serves as Director of Projects for the Tunnels and Geotechnics Service Area which includes responsibility for A/R's, schedule compliance, and invoicing, and timely deliverable submittals for projects in the approximately $7 million Service Area.

B. THAYER ASSOCIATES

BARBARA THAYER, PE, RA, LEED AP
PRINCIPAL ARCHITECT

EDUCATION and TRAINING

B.S.C.E., Civil Engineering, City College of CUNY, 1985
B. of Arch., Architecture, The Cooper Union for the Advancement of Science and Art, 1979

LICENSES and CERTIFICATIONS

Professional Engineer, NY, NJ, PA
Registered Architect, NY, NJ, PA, MI
LEED Accredited Professional, United States Green Building Council

PROFILE

Ms. Thayer has 31 years of experience in the architectural and engineering field. As founder and president of B. Thayer Associates, she is involved in all phases of the work. As a licensed architect and engineer, she is particularly qualified to supervise project teams comprised of both architects and engineers. Ms. Thayer maintains regular contact with direct staff concerning on-going project operations, production of deliverable drawings and design plans, and review and approval of all cost data prior to submission to the client.

EXPERIENCE

LaGuardia Airport Communication Room Improvements, Queens, NY

Port Authority of New York & New Jersey
Provided architectural services for improvements to communication rooms for the Central Terminal Building at LGA Airport for the Port Authority. As part of our on-call agreement with the Port Authority these ongoing efforts included site inspections, coordination with the Port Authority engineers, identification of design issues, and the preparation of cost estimates, preliminary drawings, and construction documents. Design concerns focused on limiting the construction impact while maintaining all communication systems and operations. Ms. Thayer served as Principal Architect.

Port Jervis Yard Extension, Port Jervis, NY

Metro-North Railroad
Architectural and structural preliminary and final design for new maintenance of equipment storage building and air compressor building and enlargement of T & E building within the yard. Work includes site survey and conditions assessment and documentation, the development of plans and complete CSI specifications, architectural finishes, spatial layouts to meet ADA requirements, cost estimating, constructability reviews and shop drawing review. (2001-2005)

Terminal Service Road Bridge over Route 78 Connector at Newark Airport

Port Authority of New York & New Jersey
Abutment and wingwall design for new bridge to be built partially on surcharged fill. Pile supported foundation. Seismic design and analysis.

Total Design of Willis Avenue Bridge over the Harlem River

New York City Department of Transportation
Provided architectural and associated structural design services.

BARBARA THAYER, PE, RA, LEED AP...CONT'D

Atlantic Avenue Terminal Temporary Ticket Office
Long Island Rail Road
Provided architectural and structural support services, design, specifications and contract drawings for temporary ticketing office including public and employee restrooms, which are specified to comply with current ADA requirements. Temporary Ticketing Office will be constructed in a neighboring mall and will replace all functions of the current permanent Ticketing Office during re-construction, which is estimated to last 2 years.

Jamaica Bay Swing Bridge
New York City Transit
Provided design and Shop Drawing review. Rehabilitation of the operator's house. Extensive staging to all asbestos removal and construction while maintaining bridge operation. Design included secondary access to operator's house by providing a steel stair supported off existing truss members. Architectural design included new windows, roof, and interior construction to accommodate operation, personnel and shop facilities. Coordination with mechanical and electrical systems was required.

White Plains Line Rehabilitation
New York City Transit
Provided final design of five elevated stations. Work included architectural design and coordination with the structural, electrical and mechanical design disciplines. Special features of the project include the design of replacement hung mezzanines and the development of design standards for elevated stations including the design of canopies, windscreens, stairways and finishes. Provided construction support services as well.

Structural Condition Survey of Transit Authority Physical Plant
New York City Transit
Provided inspection of ventilation buildings ranging from original one story structures to modern structures several stories high, housing ventilation systems, controls and personnel. Development of database management system.

Rehabilitation of the 125th Street Station, Lexington Avenue Line, Manhattan
New York City Transit
Work included repairs, upgrades and modifications to the existing architectural, mechanical, electrical, communications and signal elements of the station. Associated architect responsible for architectural design.

Fulton Street Transit Center
New York City Transit
The project is part of new connection with J, M & Z, A/C, 2/3, 4/5, Transit Center and coordination with structural, electrical, mechanical and communication disciplines.

Port Jervis Yard Extension
Metro-North Railroad
Architectural and structural preliminary and final design for new maintenance of equipment storage building and air compressor building and enlargement of T & E building within the yard. Work included site survey and conditions assessment and documentation, the development of plans and complete CSI specifications, architectural finishes, spatial layouts to meet ADA requirements, cost estimating, constructability reviews and shop drawing review.

B. THAYER ASSOCIATES

JUAN PASTOR, RA
SENIOR PROJECT ARCHITECT

EDUCATION AND TRAINING

Master of Urban Design, Pratt Institute, School of Architecture, 1989
B. of Arch., Architecture, The Central University of Ecuador, School of Architecture, 1986

LICENSES AND CERTIFICATIONS

Registered Architect, NY [redacted]

PROFILE

Mr. Pastor is a licensed architect with 24 years of experience in architectural design for new and renovation educational, commercial, residential, and transportation facilities. He possesses working knowledge of New York City and New York State Codes and Regulations. His expertise is in planning, schematic design, design development, construction drawings and construction support. He also has extensive knowledge and solid skills in AutoCAD and Microstation.

EXPERIENCE

Howard Beach Station at JFK Airport, Queens, NY

Senior Project Architect/Project Manager. In collaboration with the Port Authority of New York & New Jersey, this elevated train station was designated as the NYC subway system gateway to the airport and its architectural expression fits within the airport terminal context (12,000 sf). Construction Cost $25 million.

Port Authority Bus Terminal, Basement Level for Greyhound Lines Inc., New York, NY

Architect Designer/Production. Offices, 2 wash-bays, maintenance shop and support areas (21,000 sf).

New Concourses for NJT and Amtrack at Penn Station, New York, NY

Designer/Production Architect. Two new concourses were designed in an existing structure below 2 office towers and Madison Square Garden and above the train tracks/platforms without disrupting the essential day-to-day operations. Ornate architecture of the old Penn Station building was incorporated in the new spaces. The new concourses (110,000 sf) provide for ticketing windows, waiting areas, new stairs, escalators and elevator access to platforms for 13 train tracks, and a new access/ entrance area at the street.

Design Services for New Data Center at Building 157, Newark Liberty International Airport

Port Authority of New York and New Jersey

Managed the team that provided design, construction documents and construction support services for infrastructure modifications capable to handling a data center's needs including furnishing and installation of IT, electrical and mechanical systems; upgrade and modifications of structural and architectural building components and systems and utilities upgrades. The team provided structural analysis and design for the Data Center located in the Mezzanine level of the existing Building 157. Consideration was given specifically to the existing floor and roof area which were designed for office use and now in need of structural reinforcement for additional equipment and loads necessary for the new use. Design for the necessary steel framing and foundation as well as the dunnage framing for the rooftop air-cooled condenser units was completed. Structural work also included the design of a new one-story building adjacent to Building 157 to house a UPS/Battery room and various concrete pads for an emergency generator and other electrical and mechanical equipment as well as a retaining wall for an access platform.

General Warehouse,Randall's Island, NY
Triborough Bridge and Tunnel Authority
Architect Designer/Production. Conversion of salt & vehicle storage to administration offices, maintenance shop and storage areas (28,000 sf).

Commuter Control Center, New York, NY
Joint Venture Amtrak and LIRR
Architect Designer/Production. 7 stories plus cellar (71,000 sf) housing the state-of-the-art double story control center for trains in and out of the 21 rail tracks of Penn Station, offices, retail and support areas.

Henry Hudson Facility, Administration Building and Maintenance Garage, New York, NY
Triborough Bridge and Tunnel Authority
Architect Designer/Production. 4 levels (17,000 sf) housing fire fighting apparatus, dining facilities, offices, dormitory, training facilities, health and fitness center and support areas. Cost $28 million.

New York City Schools Exterior Renovations, Staten Island, NY
School Construction Authority
Project Manager. Exterior renovation including façade restoration and complete window and roof replacement of two large city schools for the School Construction Authority.

Columbia University Renovation Projects, New York, NY
School Construction Authority
Project Manager. Exterior renovation including façade restoration and complete window and roof replacement of two large dormitory buildings in the University campus.

Hunter College at Brookdale, New York, NY
Dormitory Authority State of New York
Project Manager. Renovation of buildings: 6, 10 and 14 stories (528,500 sf) consisting of complete MEP systems upgrade and ADA and code compliance. Construction cost $23 million.

School Re-structuring Projects, New York, NY
School Construction Authority
Restructuring of five large New York City Schools for the SCA. Each of the buildings were altered/ renovated to accommodate several individual academies. Scope of work included extensive interior and exterior renovations.

Medical Center, Queens, NY
Architect Designer/Production. New outpatient medical facility: 3 levels (16,000 sf) housing exam rooms, offices and support areas. Cost $17.5 million.

Fire Engine Company 277, New York, NY
Senior Project Architect/Project Manager. New fire house with four levels (17,000 sf) housing fire fighting apparatus, dining facilities, offices, dormitory, training facilities, health and fitness center and support areas. Cost $28 million.

B. THAYER ASSOCIATES

MICHAEL SHEEDY, RA, LEED AP
PROJECT ARCHITECT

EDUCATION AND TRAINING

B. of Arch., Architecture, Carnegie Mellon University

LICENSES AND CERTIFICATIONS

Registered Architect, NY
LEED Accredited Professional, United States Green Building Council

PROFILE

Mr. Sheedy is a licensed architect with 17 years of experience in architectural design, schematic design, design development, and preparation of construction documents for a variety of projects: infrastructure improvements, renovations and new structures for transportation facilities, libraries, schools, hospitals, hotels, office buildings, and performing arts center. He proactively coordinates with engineers, designers, CADD operators, and clients to reconcile final details prior to a delivery.

EXPERIENCE

N.Y.C. Dept. of Housing, Preservation and Development Brooklyn Redevelopment Corporation

As a Field Inspector for these city owned buildings, created construction documents for restoration and rehabilitation, reviewed field orders, and administered contracts.

Port Authority of NY & NJ PATH Station

Designer for the World Trade Center station renovations including the replacement of platform flooring, seating, wall treatment and turnstiles.

Davis Park Harbor Tower and Bath-house Renovations
Town of Brookhaven

Project Architect, responsible for the design and successful completion of extensive renovations for the Harbor Master Tower and comfort stations at the Davis Park Marina on Fire Island.

Parks Administration Building
Town of Brookhaven

Project Architect and designer of a 12,000 square foot Adirondack Style Parks Administration building at the Centereach Pool Facility, This Capital Project is a combined Youth Community and Parks Department headquarters. Expedited competitive bidding and contract awards. The projected LEEDS Gold building is currently under construction.

Sheltaire Air Terminal at Gabreski Airport

Represented as Quality Control (QAQC) Construction inspector for a Fuel Farm Installation, a parking lot expansion and Drainage systems for the runway expansion.

East Islip Dental Building

Project Architect responsible for vital portions of design, presentation drawings, research of building code compliance, and preparation of working drawings for a medium sized Newport Style dental facility.

MICHAEL SHEEDY, RA, LEED AP, CONT'D...

Beechwood Organization Luxury Condominiums, Garden City NY
Project Architect responsible for the preparation of working drawings, design of architectural details and contract administration for this LIBI Award winning condominium community.

Southampton Residences
Project Architect implemented preparation of working drawings and presentation before the Town Board, six varieties of single family luxury houses for a Bob Morrow and Associates development.

Baltimore Public Schools
Project Architect: writing proposals and preliminary cost estimates, conducting building inspections, identifying deficiencies and prepared working drawings incorporating cost effective solutions, while maintaining architectural integrity.

Croton Falls NY Pump Station
Project Architect for restoration of a 11,000 s.f. pump station, establishing a paradigm for a 21st century rural industrial facility. Using AutoCad and 3-D Studio Viz, Rendered and Animated the virtual building and led an oral Powerpoint presentation before the New York Dept. of Environmental Protection.

Delaware Aqueduct Potable Water Reservoir
Project Architect and chief decision maker for the extensive restoration of 50,000 s.f. of early 20th century brick fortress like structures Designed historically accurate additions, confronted security issues, and generated drawings for the reproduction of numerous existing building components.

Curtis High School, Staten Island
Recipient of 2004 Building Design and Construction Reconstruction Award. As a key member of the project team, helped to catalogue the condition of terra cotta tiles on a component by component basis. Conducted field surveys of main structural components which led to their reconstruction. Construction completed in 2004.

Grand Central Terminal East End Access
Assistant Project Architect adapting program requirements within existing physical boundaries; restrictions of adjacent landlords, and governing authorities.

Deepdale Assistive Living Facility
As intermediate architect, prepared scope reports, conducted field evaluations, interacted with respective clients, applied Zoning and Building resolutions, created and reviewed construction documents, coordinated with Department of Landmarks and Department of Buildings requirements.

Tarrytown YMCA
Administered contracts, familiarized clients with a host of new products and resolved various challenges during the construction phase.

B. THAYER ASSOCIATES

TZE-KEN FONG, PE
STRUCTURAL ENGINEER

EDUCATION AND TRAINING
B.S., Civil Engineering, Utah State University, 1999

LICENSES AND CERTIFICATIONS
Professional Engineer NY, CT

PROFILE
Mr. Fong has 9 years of experience as a Structural Engineer. His experience includes a variety of private clients and public agencies including rail roads, airports, bridges, and educational institutions.

EXPERIENCE
LIRR Port Washington Bridge Abutment and Retaining Wall Restoration, Port Washington, NY
Long Island Rail Road
Mr. Fong served as Structural Engineering providing structural rehabilitation services during construction for this bridge restoration project. The scope involved preparation of structural repair drawings for breaches in the structural integrity found during the construction phase of the project. Tasks included integrity testing, structural evaluation of under-grade structures for 286,000 pounds carrying capacity, and the design for strengthening, rehabilitation or replacement of structurally deficient structures.

Babylon Train Wash Facility – Design Services, Babylon, NY
Long Island Rail Road
B. Thayer Associates provided architectural and structural services for the design of this new automated train wash facility for the Long Island Rail Road. The new facility was erected adjacent to fully operational rails. The wash bay and equipment was designed to accommodate all LIRR equipment types including diesel and dual mode locomotives, diesel hauled bi-level passenger coaches and single level multiple unit electric trains. The building was designed to house train wash equipment, overhead walkways, overhead crane supports, control equipment, and ancillary spaces. Extensive coordination was required with LIRR to maintain daily commuter train operations. Mr. Fong served as Structural Engineer.

Newark Liberty International Airport - Design Services for New Data Center (Building 157), Newark, NJ
Port Authority of New York and New Jersey
Newark Liberty International Airport is not only home to the world's longest commercial flight, but with three major terminals and over 60 arrival gates, it is one of the world's busiest airports. B. Thayer Associates was contracted to provide a structural analysis for one of the existing buildings on the property as the Port Authority of New York and New Jersey considered converting an existing warehouse (Building 157) into a data center. Consideration was to be given specifically to the existing mezzanine and roof area regarding additional equipment, chillers, etc. that would be necessary for a data center of this magnitude to run efficiently. The analysis determined that additional support would indeed be necessary for the existing floor framing to withhold 100 pounds per square foot of live loads. B. Thayer engineers developed a design for the necessary steel framing and foundation as well as the dunnage framing for the rooftop air-cooled condenser unites and concrete pads for mechanical equipment. The design is currently under review. Mr. Fong served as Structural Engineer.

Willis Avenue Bridge Reconstruction over the Harlem River, New York, NY
New York City Department of Transportation
B. Thayer Associates was responsible for the architectural features and the extensive pedestrian network for the reconstruction of the swing bridge over the Harlem River. The bridge is an important pedestrian and bicycle link between Manhattan and the Bronx. Access was required to the Manhattan River Front and the area adjacent to the river on the Bronx side. Mr. Fong served as Structural Engineer.

TZE-KEN FONG...CONT'D

Architectural design included the bridge operator house, auxiliary bridge operator house, pedestrian stairways and ramps, granite piers, railings and other architectural components. The B. Thayer team performed structural design for the ramps, stairs and bridge house. Attention was given to enhance the character of the new bridge to complement the surrounding architecture and neighborhood. Services included cost estimates, construction support, and presentations to the New York City Art Commission and State Historic Preservation Office (SHPO) for review and approval. Mr. Fong served as Structural Engineer.

Suffolk County Yaphank Jail, Yaphank, NY

Suffolk County DPW

The County expanded the existing correctional facility by adding a new addition to the facility. The new correctional facility building consists of a steel-framed structure with exterior pre-cast panel walls. This building included 6 pods with two story cell rooms and visitation rooms and two story mechanical rooms. The phasing of the project included the expansion of an additional 6 pods. Mr. Fong served as Structural Engineer.

Connetquot Senior High School Renovation and Addition, Bohemia, NY

Connetquot Schools Central Administration

The existing high school was expanded by adding new classrooms and gymnasium adjacent to the existing classrooms. Mr. Fong's responsibilities included the structural design for gravity and lateral supports and foundation design utilizing RAM software. Responsibilities also included the analysis of existing roof structures and foundations due to the impact of the new building additions. Mr. Fong prepared a full set of structural drawings by utilizing AutoCAD. During the construction phase, he reviewed shop drawings, responded to RFI's and inspected contractors work.

Connetquot - Sycamore Elementary School Renovation and Addition, Bohemia, NY

Connetquot Schools Central Administration

The existing elementary school was expanded by adding new classrooms to the existing building. Mr. Fong's responsibilities included the structural design for gravity and lateral supports and foundation design utilizing RAM software. Responsibilities also included the analysis of existing roof structures and foundations due to the impact of the new building additions. Mr. Fong prepared a full set of structural drawings by utilizing AutoCAD. During the construction phase, he reviewed shop drawings, responded to RFI's and inspected contractors work.

Bayport-Blue Point Senior High School Renovation and Addition, Bayport, NY

Bayport-Blue Point School District

The existing high school was expanded by adding new classrooms and gymnasium adjacent to the existing classrooms. Mr. Fong's responsibilities included the structural design for gravity and lateral supports and foundation design utilizing RAM software. Responsibilities also included the analysis of existing roof structures and foundations due to the impact of the new building additions. Mr. Fong prepared a full set of structural drawings by utilizing AutoCAD. During the construction phase, he reviewed shop drawings, responded to RFI's and inspected contractors work.

Hicksville Public Library Renovation and Addition, Hicksville, NY

Hicksville Union Free School District

The new library building constructed in Hicksville is a triangular shaped steel-framed structure. The project required that an additional floor be added on the roof for future expansion. Mr. Fong's responsibilities included the structural design for gravity and lateral supports and foundations in accordance with building codes. He prepared a set of structural drawings utilizing AutoCAD. During the construction phase, Mr. Fong reviewed shop drawings, responded to RFI's and conducted site inspections.

B. THAYER ASSOCIATES

JOHN R. MCWILLIAMS, LS
PROJECT MANAGER, LAND SURVEY

EDUCATION AND TRAINING
Construction Technology, SUNY Farmingdale
Civil Engineering Technology, Nassau Community College

LICENSES AND CERTIFICATIONS
Professional Land Surveyor, NY
NICET IV, NY
ACSM Technician III
Hazardous Waste Operations (HAZWOPER)

PROFILE
Mr. McWilliams has 24 years of experience in the field of surveying. He is a New York State licensed land surveyor experienced in the management of right-of-way and acquisition mapping; high precision control surveys; and boundary, utility, topographic, and design surveys for public and private clients. His experience includes providing surveying construction support services for large commercial projects as well as for smaller community projects in addition to completing topographic and utility surveys for major roadway and sewer improvements throughout New York City and Long Island.

EXPERIENCE

High Bridge Restoration Project, Survey Services, Manhattan and the Bronx, NY
New York City Department of Parks and Recreation
The B. Thayer Associates survey team was contracted to produce a series of drawings depicting the planimetric and topographic features of the bridge span and gate house areas for the High Bridge, the oldest surviving bridge in New York City connecting the boroughs of Manhattan and the Bronx. It has been closed to pedestrian traffic since 1960, and was designated a landmark by the New York Landmarks Preservation Commission in 1970. Special measures were taken to protect historical surface finishes and structures during surface mapping. During interior mapping, challenges included the fact that access to the work area, 17 feet below the bridge surface, was provided by only two manholes approximately 500 feet apart. Therefore, control was set using a total station with an extreme plunge on the scope and elevations were checked via differential leveling and taping. Cross-sections to match the surface were collected with special attention paid to the clearance between the 90-inch aqueduct and the ceiling of the attic area. Mr. McWilliams served as Project Manager.

Republic Airport Boundary Survey, East Farmingdale, NY
New York State Department of Transportation
Republic Airport is a state-owned, public-use airport that utilizes two runways: 14/32 and 1/19. The 14/32 is the longer of the two, typically serving larger aircraft and, therefore, utilizing an instrument landing system (ILS) to provide precision guidance during reduced visibility. Three-dimensional avigation easements were required (i.e. an "air easement" acquired through eminent domain proceedings to grant aircraft the right to fly over necessary air space to take off and land at airports) to bring the Approach Surface and the Transitional Surface of this precision instrument runway up to current specifications. To that end, Mr. McWilliams, as Project Manager, completed a boundary survey of not only the 526-acre airport parcel, but to 22 contiguous and neighboring properties. He calculated the elevations at all easement corners for both the Approach Surface and the Transition Surface and completed additional surveys to identify protrusions through all the surfaces at both Runway 14/32 and Runway 1/19. Deliverables included acquisition maps necessary for the three-dimensional avigation easements sought by the NYSDOT.

New York City Parks On-Call Survey Services, New York City, NY
New York City Department of Parks and Recreation
This contract involved on-call survey services for a variety of New York City Department of Parks and Recreation projects throughout the five boroughs of New York City. Project scopes included boundary, utility, and topographic surveys which were used in the design of various park and waterfront improvement projects for the Department. Mr. McWilliams served as Project Land Surveyor.

JOHN R. MCWILLIAMS, LS...CONT'D

Milburn Creek Culvert Improvement - Survey Services
Nassau County Department of Public Works
Nassau County Department of Public Works wanted to redesign the Milburn Creek Culvert. B. Thayer Associates was contracted to set up horizontal and vertical controls based on existing boundary monumentation. The B. Thayer survey crew set up an 11-point control network with primary points along the roadway, secondary points along the culvert, and tertiary points along the topography area. Mr. McWilliams served as Project Manager.

Renaissance Technologies Corporate Center, Setauket, NY
Private Developer
This project involved the topographic survey and the construction, boundary, and utility stakeout of a 54-acre parcel destined to be the site of large corporate center. The project objectives included the civil engineering site design of a proposed 20,000 s.f. office building, 20,000 s.f. athletic facility, 300,000 s.f. additions to an existing corporate center, NYSDOT upgrades to 25A with new parking, grading/drainage, SWPPP / MS-4 permitting, and various site landscape improvements. Mr. McWilliams served as Project Land Surveyor.

On-Call Survey Services for Long Island Region
Hess Corporation
This on-call contract allowed for a variety of survey services over a ten-year period for Hess Corp.'s major expansion program on Long Island. Project scopes involved over 100 facility upgrades and new Hess Express stores which included planning, civil design, parking lot design, grading and drainage, septic design, storage tank design/permitting, survey, permitting, and construction management. Mr. McWilliams served as Project Land Surveyor.

Design Survey and Mapping for Roadway Improvements, Queens, NY
New York City Department of Transportation
This project involved right-of-way, topographical, and utility surveys detailing both plan and profile view of approximately 34,000 linear feet of roadway and 45 intersections for pre-engineering design of sewers and roadway improvements at various locations throughout Queens. All survey observations were referred to recovered borough monumentation. Control networks were densified utilizing GPS technology. All drawings were prepared to demanding New York City Department of Design and Construction specifications. Mr. McWilliams served as Project Surveyor.

Staten Island Survey Control Study, Staten Island, NY
New York State Department of Transportation (Region 11)
The NYSDOT required surveying services as part of a larger project to replace all existing guardrail on the three major roadways in Staten Island: the West Shore Expressway, the Staten Island Expressway, and the Martin Luther King, Jr. Expressway for a total of 36 miles of first order traverse and second order leveling. As Project Surveyor, Mr. McWilliams conducted a high precision control survey throughout the borough to determine the relationship between the Staten Island Coordinate System and the North American Datum of 1927.

Bridge Creek Wetlands, Staten Island, NY
New York City Department of Transportation
Nearly a century ago, a state highway and railroad line was constructed in this area, cutting off tidal flow and jeopardizing the entire upstream aquatic ecosystem. The wetlands were created in 1997 to restore that ecosystem. Key partners in the project included the National Oceanic and Atmospheric Administration (NOAA), the USDA Natural Resources Conservation Service, and the USDI Fish and Wildlife Service (FWS). Mr. McWilliams performed an as-built topographical survey of the 18-acre site as the final phase of this Bridge Creek Salt Marsh Restoration Project to ensure tidal inundation of the seedlings.

B. THAYER ASSOCIATES

JONATHAN SCHMIDT
SURVEY SUPERVISOR

EDUCATION

A.A.S., Surveying and Mapping, Denver Institute of Technology, 1994

PROFILE

Mr. Schmidt has 22 years of experience in the survey field. His experience includes control and property boundaries, highway and railroad surveys, building surveys, topographic, utility, and land title surveys. As Survey Supervisor, Mr. Schmidt oversees the completion of projects and helps other field crews with various tasks. He serves as a liaison between B. Thayer and the prime and/or the client as necessary.

EXPERIENCE

Survey of Delta Apron at JFK Airport, Queens, NY

Port Authority of New York & New Jersey

B. Thayer Associates was contracted to complete topographic survey within the proposed Delta lease limits at Terminal No. 4 at JFK Airport in Queens. Survey data obtained used the Queens Coordinate System as a reference; elevations were relative to mean sea level. Mr. Schmidt served as Senior Crew Chief.

New York City Flood Mitigation, New York, NY

New York City Transit

B. Thayer Associates provided professional surveying and mapping services for the drainage study at street level of four New York City Transit subway stations. In addition, elevations were collected at specific locations, created profiles and cross sections. The field information was supplemented with existing city and subway maps. Elevations were tied to the city and subway datum. Mr. Schmidt served as Senior Crew Chief.

Amityville Retail Center Site Development – Survey Services, Amityville, NY

Private Developer

B. Thayer Associates was contracted to complete a boundary search to verify previous survey data for development of this vacant lot into a substantial retail center. A horizontal control network was established on site to locate boundary evidence. Elevation data was transferred from bench marks in the Town of Babylon Datum onto each of the established horizontal control. Once the site had been cleared, the boundary was staked-out and bench-marks set on site in preparation of construction. After construction of the foundation was completed, a foundation location plan was prepared for submission to the building department. Curb-lines were staked-out as part of the final construction process. Upon completion of construction a final "as-built" survey was completed for this project. As part of this as-built all drainage and sanitary structures were opened and invert information was acquired. Detailed information on all utilities servicing the subject parcel was also collected at this time. Mr. Schmidt served as Survey Supervisor.

Milburn Creek Culvert Improvement - Survey Services

Nassau County Department of Public Works

Nassau County Department of Public Works wanted to redesign the Milburn Creek Culvert. B. Thayer Associates was contracted to set up horizontal and vertical controls based on existing boundary monumentation. The B. Thayer survey crew set up an 11-point control network with primary points along the roadway, secondary points along the culvert, and tertiary points along the topography area. Mr. Schmidt served as Survey Supervisor.

Eastchester Bus Terminal, Eastchester NY
New York City Transit Authority
This project involved the detailed topographic survey of 349,000 square feet of the Eastchester Bus Terminal for preparation of a major addition to the bus wash facility. Mr. Schmidt served as Survey Supervisor.

Two Bridges on the Bronx River Parkway, Westchester, NY
Westchester County Department of Public Works
This project involved a topographic survey for the replacement of two county bridges. Work included collection of existing features, vertical and horizontal control base lines, elevations within the river bed, and cross-section of a portion of the Bronx River Parkway. Mr. Schmidt served as Survey Supervisor.

Palmer Road and Access Ramps, Yonkers, NY
Westchester County Department of Public Works
This project involved the topographic survey of approximately 5,000 l.f. of Palmer Road for rehabilitation. Tasks included vertical and horizontal control, utility survey, and cross sections. GPS was utilized to transfer horizontal control from New York State Department of Transportation monuments and bench marks. Mr. Schmidt served as Survey Supervisor.

Boundary Survey for Eight Parks, Nassau County, NY
Town of North Hempstead
Surveys were required by the Town of North Hempstead as a condition of purchasing each property from Nassau County. The B. Thayer survey crew completed boundary surveys at eight separate parks (totaling about 280 acres) in about four weeks' time. Work items included adjacent roadways, fences, walls, monuments, and descriptions. Property descriptions, tax maps, roadway plans, and easement were collected and set markers were installed on the corners of each property, using ½" iron rebar with caps. Mr. Schmidt served as Senior Crew Chief.

SUNY Farmingdale Topographic Survey and Utility Work, Farmingdale, NY
State University Construction Fund
This project included a detailed topographic survey and utility inventory of 7.5 acres of the SUNY Farmingdale campus. The B Thayer survey crew created a horizontal control network across the campus using GPS and conventional total station traversing techniques. Two sets of inter-visible coordinate pairs were established via GPS observations. Then a conventional closed traverse that encompassed all four points was run and the horizontal positions were adjusted to the New York State Plane Coordinate System. On-site elevations were generated by conventional differential leveling from elevations previous established on the campus, across the horizontal control network with a check-in to other existing control elevations and a detailed topographic study of the work area was completed. All major improvements were located along with enough topographic data to generate contours on a one-foot interval. Utility mark-outs were located using conventional survey methods. A detailed utility inventory was completed that included opening all sanitary and storm drainage structures for as-builting, reconciling multiple generations of record maps against the field mark-outs, and coordinating with various agencies to determine the location of various utility lines (both abandoned and active). Mr. Schmidt served as Survey Supervisor.

JCMS, Inc.
25 Years of Excellence

MURALI PUTHIYARAMBATH, MBA — SR. COST ESTIMATOR

Experience Highlights:
Strong Estimating & CM experience on diverse projects.

Proficient in the use of Primavera and other Project Management tools

Total Experience:
21 Years

Education:
B.S. Civil Engineering, MREC, India
MBA, Marshall School of Business, USC, Los Angeles

Certifications:
Primavera Certified P6 Trainer
Project Risk Management in Primavera Pertmaster – Oracle University

Memberships:
CMAA, PMI, Metropolitan Railway Club of NY

Training:
Construction Quality Management – US Army Corps of Engineers, Philadelphia
Financial Mgmt. – Indian Institute of Management (IIM), Calcutta, India
Project Mgmt. – Administrative Staff College of India (ASCI),
Quality Mgmt. – National Productivity Council, New Delhi, India
Project Mgmt. & QC – National Thermal Power Corporation, New Delhi, India

Mr. Puthiyarambath is an engineering and management professional with over twenty one years experience on diverse construction projects including infrastructure, commercial, industrial institutional buildings, and defense department projects. His responsibilities included project management, construction management, contract management, project planning, CPM scheduling, cost estimating, bidding, performance reporting, vendor negotiations and subcontracting.

Mr. Puthiyarambath has provided Cost Estimating services on a variety of infrastructure, commercial and industrial building projects. These include mass transit, facilities, schools, universities, hospitals, peritentiaries etc. Serving as Project Manager, Mr. Puthiyarambath also developed hard bid estimates for a number of projects and subsequently supervised the construction through completion and commissioning. Mr. Puthiyarambath has provided conceptual, preliminary, budget and definitive cost estimates. Working with A/E firms from the beginning of a project he has developed construction cost estimates through the various design phases and for various scenarios, broken down by CSI Division or work breakdown structure (WBS) with detailed backup data. Due to his field experience Mr. Puthiyarambath has a keen understanding of field productivity rates as it applies to labor cost and crew requirements for work components. He also is knowledgeable about pricing trends and bidding climate, resource availability that have impact on construction time and cost.

Mr. Puthiyarambath is also proficient in using E=MC2 Estimating software and project management tools such as "Expedition" and "Prolog" Document Control software. His other software experience includes all MS Office applications including MS Word, Excel, Power Point and Access etc.

PROJECT EXPERIENCE:

NJT - System Wide Communication Improvements NJ: The scope includes communication improvements to 7 stations in Raritan valley line and 4 stations in Morristown/Boonton lines, 2 stations in NorthEast Corridor line, 1 stations in North Jersey Coast line, Newark City Subway. Supervised the development of detail cost estimates for civil work involved in electrical/telecommunication improvements in various stations separately.

NJT - Port Morris Rail Yard, Port Morris, NJ: The Port Morris Rail Yard property is comprised of approximately 41-acres situated between Port Morris Center/Canal Street and Kings Highway, along NJ Transit's Morris and Essex (M&E) Line. The site is currently an operational rail yard, servicing up to seven trains per day. The rail yard is in operation 24 hours a day, five days a week. Services at the yard include fueling, brake and service inspection, and overnight storage of trains operating on the M&E Line. The proposed Building includes the construction of the following new structures:

Service and Inspection Building (approximately 65 ft by 800 ft Pre-Engineered Building system);
Crew Quarters Building (approximately 25 ft by 400 ft); New and replacement of existing tracks;
New storm drainage and detention system; New Electric substation; Fueling station improvements & relocation of sanding silo; Supervised the development of 30% cost estimate and project cost summary for Yard, Service & Inspection Building.

Port Authority of Allegheny County, FTA, PA DOT - The North Shore Connector - Light Rail Transit System (Under River Tunnel), Pittsburg, PA: The North Shore Connector project is an extension of the 25 mile Light Rail System in Pittsburg. The major features of the project are: 1. 1.2 miles extension to the existing LRT system, 2. Bored Tunnel underneath the Allegheny River 3. Cut and cover tunneling underneath Downtown and North Shore Streets and 4. Three new stations. Working as a part of the Project Management Oversight team, Mr. Puthiyarambath provided cost estimating support that included the following: Perform cost confidence analysis of the Engineer's construction cost estimates; Prepare and maintain overall program cost estimate; Review contractor's value line breakdown for each contract; and Prepare cost estimates for all contract change requests and claims.

Miami-Dade Transit – Metrorail Extension, Miami, FL: The North corridor Metrorail Extension is an elevated 9.2 mile double-track, heavy-rail extension of the Miami-Dade Metrorail system. This is a New Starts involving design, procurement and construction. Scope includes construction of elevated concrete structures (pre-stressed, pre-cast and regular cast in-situ); tracks; traction power; train controls and communication; new vehicle procurement; seven new stations; and associated site developments including demolitions, utility relocation, utility services and parking lots. Mr. Puthiyarambath was responsible for review, analysis and comments on grantee's cost estimates; which involved independently verifying major cost components in conformance with PMOP Operating Guidance #33. The scope of work included – stratification of cost items, mechanical check of estimate, comparison of cost to industry standards, correspondence with scope review, evaluation of contract package elements, and review of GC cost and cost escalation factors. Mr. Puthiyarambath was also responsible for evaluating project schedule and project risk.

PIDC - Architectural Landscape Design, Civil Engineering, & Owner's Representative Services for the Navy Yard Riverfront Greenway: The project includes a two mile long, 9-acre "Riverfront Esplanade" that stretches from just west of Broad Street and then extending eastward along the Delaware River. Enhancement of the riverfront not only adds to the redevelopment efforts of the Navy Yard, but also provides a unique, much-needed urban waterfront recreational opportunity for the City of Philadelphia as well as the entire metropolitan region. He was responsible for preparing preliminary construction cost estimates (including maintenance costs) for each schematic design, and Preliminary Design for the Project ("Preliminary Design Drawings") for review and comment by PIDC, DRAC and DCNR.

SEPTA - Walnut & Locust Subway Station, Philadelphia, PA - The project consists of modifying the existing subway station building stairwell and adjacent portions of the building, rerouting of the building utilities, constructing an elevator shaft way and machine room and installing a new ADA compliant elevator. Supervised cost estimating services for specific scope of work.

NJSCC- Greater Egg Harbor Regional High School, Egg Harbor, NJ: The project includes construction of new high School (208,000 SF) building and site development spread over 76 acres including football field, basketball, soft ball, soccer, field hockey and parking lot. Mr. Puthiyarambath is responsible for supervising the development of cost estimates at various stages of design development & construction documents.

NJSCC - Egg Harbor Township High School, Egg Harbor, NJ: Additions & Rehabilitation of existing school to meet impending enrollment. This project consists of adding over 20 classrooms, enlarging the cafeteria, adding a new auditorium, and adding new gymnasiums is expected to bring the classrooms on for September 2008 with the remaining projects anticipating concluding in the early part of 2009. Mr. Puthiyarambath is responsible for developing cost estimates at various stages of design development & construction documents.

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RAVINDRAN ARUMUGAM — SR. COST ESTIMATOR

Experience Highlights:
Extensive experience in providing both budgetary, definitive cost estimates and change order estimates

Cost Estimating experience supplemented by strong field experience

Total Experience:
20 Years

Education:
B.S. Civil Engineering
University of Madras, India

Software Skills:
MS Office, AutoCAD 2002; AutoCAD lisp routine; Primavera Project Planner (P3); & MS Project Platforms: Windows

Mr. Arumugam has over twenty (20) years experience in the field of cost estimating, project controls and construction management. He has served in various capacities such as Cost Estimator, Site Engineer and Asst. Project Manager. He has been involved in a variety of projects that include infrastructure, industrial, institutional and commercial projects. Mr. Arumugam is very proficient in the field of cost estimating. During the design phase of projects, Mr. Arumugam has developed cost estimates (conceptual and final cost estimates) including quantity take-offs and costing, performed constructability review and provided construction phasing services. He has a keen sense of labor productivity rates, material pricing, bidding climate, resource availability (manpower and equipment) and their impact on construction time and cost. Mr. Arumugam also has considerable experience in estimating change orders resulting from design modifications and changed site conditions. He has provided Change Order Estimating services on major transit projects.

Mr. Arumugam's experience as a Cost Estimator is reinforced by his considerable field experience having served as Field Engineer and Assistant Project manager. He has been responsible for management of construction field office including subcontract negotiations, coordinating material purchases and expediting deliveries, directing and allocating a team of site foreman, trades persons, performing quantity estimates for the purpose of estimating work completed, assisting the project manager with job costing, etc.

PROJECT EXPERIENCE:

SEPTA – Market Street Elevated Reconstruction Project, Philadelphia: The project involved the staged replacement of the Market Street Elevated system which is approximately 11,000 feet long and the replacement of six stations located at 46th Street, 52nd Street, 56th Street, 60th Street, 63rd Street, and Millbourne. This complete replacement had to be carried out while keeping the system open to traffic .Mr. Arumugam was responsible for preparing numerous change order estimates for the Stations and Guideway contract packages due to multiple design modifications. The change order estimates were for among others, changes due to foundation redesign, span emergency retrofit, trumpet bearing problems, additional shoring towers, canopy roof sub decking, plinth redesign etc.

AMTRAK PROGRAM Management Oversight (ARRA Funded Projects): The program includes more than 100 infrastructure improvement projects throughout the U.S with an estimated value in excess of $1.3 Billion, being funded through the American Recovery and Reinvestment Act (ARRA) economic-stimulus package. The project scope is to design and construct the projects such as maintenance facility upgrades, bridge replacements, track work, security enhancements, fall protection systems and various station improvements. Mr. Arumugam was responsible for preparing Schematic design and Bridging design (bid package for design-build) phase cost estimates.

MTA – East Side Access, New York, NY: The $8.7 billion East Side Access (ESA) program is one of the largest construction efforts ever undertaken by New York's Metropolitan Transportation Authority (MTA). Elements include more than 26,000 linear feet of new hard rock, soft-ground, and reconstructed tunnels; major reconfiguration of the lower level of GCT; and new track work, station, and yards. Mr. Arumugam, as a part of constructability review team was responsible for reviewing project's cost estimates. He worked on CQ031 Queens Bored Tunnels and Underground Structures, CM012 Construct Manhattan Structures and CM013 Ventilation Building at 50th street which involved critical site considerations due to its location.

Miami-Dade Transit – Metrorail Extension, Miami, FL: The North corridor Metrorail Extension is an elevated 9.2 mile double-track, heavy-rail extension of the Miami-Dade Metrorail system. This is a New Starts involving design, procurement and construction. Scope includes construction of elevated concrete structures (pre-stressed, pre-cast and regular cast in-situ); tracks; traction power; train controls and communication; new vehicle procurement; seven new stations; and associated site developments including demolitions, utility relocation, utility services and parking lots. Mr. Arumugam was responsible for review, analysis and comments on grantee's cost estimates; which involved independently verifying major cost components in conformance with PMOP Operating Guidance #33. The scope of work included – stratification of cost items, mechanical check of estimate, comparison of cost to industry standards, correspondence with scope review, evaluation of contract package elements, and review of GC cost and cost escalation factors.

New Jersey Transit – Morrisville Yard Improvements Phase – 2: The project involved the construction of a new train washer building, yard facilities, services and inspection building and a wheel truing facility. Mr. Arumugam was responsible for preparing change order estimates for the Morrisville Yard Improvement project Phase 2 contract due to design modifications and changed site conditions.

NJ Transit – The Lower Hack under Grade Bridge Rehabilitation, NJ: The project is located on the Morristown Line over Hackensack River in Jersey City, Hudson County, New Jersey. The work consists of Structural Steel Repairs, replacement of Walkways and Ladders, Machinery House/Operator House rehabilitation, and Inspection and Machine work of the counterweight Sheaves of Lower Hack Bridge. Mr. Arumugam assumed the responsibility of Assistant Resident Engineer following the assignment of the existing R.E. to another project. His duties include project coordination, document control, meetings and correspondences, inspection of work to ensure conformance to project specifications, preparing change order estimates and processing change orders, payment certifications, etc.

SEPTA - Norristown Transportation Center Intermodal Parking Facility: The new Intermodal Facility includes a multi-deck parking garage for 540 cars and an intercity bus terminal. The project will provide new intermodal connections between SEPTA's suburban rail lines and bus routes, while adding greatly to the supply of convenient parking for the Transportation Center. Mr. Arumugam was responsible for preparing Cost Estimates for the multi-deck parking garage and bus terminal at 50% & 100% design phases. He also developed a pre-bid construction schedule for the project.

NJSCC – Cumberland High School, Cumberland, NJ: The scope of work included school building renovation work in a built-up area of 250,000 SF. The work included architectural, mechanical and electrical renovation. Mr. Arumugam was responsible for preparing conceptual and detailed cost estimates at various stages of design.

Bergen Community College – West Hall, Paramus, NJ: Mr. Arumugam was responsible for preparing Cost Estimates at 30%, 60%, 90% and 100% design for the construction of a new three story building with a total built up area of 60,000 SF.

SDP - G W Carver High School & Elementary School, PA: This project involved additions and extensive renovation to existing facilities including HVAC, plumbing, fire protection, electrical system, data communication and ACM abatement under Capital Improvement Program initiated by the School District of Philadelphia. The project involved alteration of existing school (124,381 SF) and addition of new gymnasium & kitchen (35,000 SF). He was responsible for developing cost estimates for the project.

Best Western Inn & Suites, Rahway, NJ: The project is new construction of a 5-story hotel building with 74 guest suites, common dining area, gymnasium, indoor swimming pool, parking lot etc. Mr. Arumugam was responsible for the management of the construction field office including subcontract negotiations, coordinating material purchases and expediting deliveries, directing and allocating a team of site foreman, trade persons , estimating numerous change orders, performing quantity estimates for the purpose of estimating work completed, assisting the project manager with job costing, etc.

JCMS, Inc.

PUSHPA RAJASHEKAR — COST ESTIMATOR

Experience Highlights:
Experience in providing cost estimating services on varied building projects

Expertise in preparation of electrical and mechanical cost estimates

Total Experience:
8 years

Education:
B.S. Electrical Engineering

Skills:
E=MC2 Estimating software, MS Word, Excel, MS Access, Lotus 123 and Primavera's Expedition

Ms. Rajashekar has provided cost estimating services on a large number of infrastructure, institutional, commercial, and residential projects. While she has developed cost estimates for all CSI Divisions, she has a strong background in the electrical and mechanical disciplines. She has expertise in preparing quantity take-off and costing of projects including vendor verification of costs for specialty items. She has a keen understanding of market prices of material and equipment as it relates to various types of projects.

Ms. Rajashekar is proficient in many application softwares including E=MC2 Estimating software, MS Word, Excel, MS Access, Lotus 123 and Primavera's Expedition

PROJECT EXPERIENCE:

NJT - Port Morris Rail Yard, Port Morris, NJ: The Port Morris Rail Yard property is comprised of approximately 41-acres situated between Port Morris Center/Canal Street and Kings Highway, along NJ Transit's Morris and Essex (M&E) Line. The proposed Building includes the construction of the following new structures:

1. Service and Inspection Building (approximately 65 ft by 800 ft Pre-Engineered Building system);
2. Crew Quarters Building (approximately 25 ft by 400 ft);
3. New and replacement of existing tracks; New storm drainage and detention system;
4. New Electric substation;
5. Fueling station improvements & relocation of sanding silo;

Developed site utilities, mechanical and electrical cost estimate for the project during preliminary phase.

NJT - Morrisville Train Storage Yard Phase 2, Morrisville, PA: Project involved expansion of the Yard to double the train storage capacity to accommodate 120 rail cars, two elevated tracks in a fully enclosed Service & Inspection facility and Wheel Truing Facility. It also included Crew Quarters and an employee parking lot. Developed detailed electrical and mechanical quantity take off and cost estimates at schematic and detailed design construction cost estimate for the project.

SEPTA R-3 Elywn to Wawa Service Restoration Project: This project comprises of new track, overhead catenary, signals, communication systems, and structures. It also includes a new station and parking spaces at the old Wawa Station near Chester Heights. There are also two grade crossings, two overhead road bridges, a rail bridge over Route 1, and bridges over six creeks or streams. Ms. Rajashekar is responsible for providing cost estimating services for this project.

NJT - MMC Facility Expansion, Kearny, NJ: This project involved major additions such as a new train washer facility, expansion to several buildings in the complex including the services and inspection building for all levels of inspection of new comet V coaches, installation of new track, catenary and additional rail vehicle maintenance equipment. Ms. Rajashekar served as the estimator for the project during preliminary and final design phases.

MTA–East Side Access, New York, NY (CM 012- Manhattan Structures-2): The $ 8.7 billion East Side Access (ESA) program is one of the largest construction efforts ever undertaken by New York's Metropolitan Transportation Authority (MTA). Elements include more than 26,000 linear feet of new hard rock, soft-ground, and reconstructed tunnels; major reconfiguration of the lower level of GCT; and new track work, station, and yards. Ms. Rajashekar, as a part of constructability review team is responsible for reviewing project's cost estimates.

SEPTA- Walnut & Locust Subway Station, Philadelphia, PA - Walnut-Locust is a subway station in Philadelphia, PA on SEPTA's Broad Street Line. The project consists of modifying the existing building stairwell and adjacent portions of the building, rerouting of the building utilities, constructing an elevator shaft way and machine room and installing a new ADA compliant elevator. The scope includes remove, replace and relocate FP control system inside the University of Arts building. Responsible for cost estimating services for specific the scope of work.

City of Philadelphia – Platt Bridge Lighting Project, Philadelphia, PA: The project consisted of two options: Package A - Furnish and install navigation and aviation lighting fixture including conduit and wiring. Package B –Furnish & install roadway, navigation and aviation light fixture including conduit and wiring. Cut and remove existing roadway lighting poles. Prepared quantity take-off, design and final cost estimate.

SEPTA - 2nd & Oregon Avenue Stations, Philadelphia, PA: Project involved escalator replacement, elevator construction, new stairway, head house, and associated electrical and mechanical work. Prepared cost estimate at 60% and 100% design phases.

SEPTA - Norristown Transportation Center Intermodal Parking Facility(NTIPF), Norristown, PA: Responsible for preparation of Cost Estimates for a multi-deck parking garage for 540 cars and a bus terminal at 50% & 100% design phases.

DRPA - PATCO Administration Building, Lindenwold, NJ: Prepared Cost Estimates at 50%, 90% and 100% design phases and construction schedule for the two story administration building, control center, vehicle storage building, and improvement in space utilization and associated yard work.

NJSDA - Elberon Elementary School, Long Branch, NJ: A 2-story construction of 108,000 SF Elementary school. The primary construction is load bearing reinforced concrete masonry units. Scope also includes Plumbing and fire protection. Electrical and communication work includes electrical service, emergency power, Intrusion detection system, Access control, and Surveillance CCTV and Voice communication. Ms. Rajashekar was responsible for preparing plumbing, HVAC and electrical cost estimates.

LIRR - Station Master's Office Renovation, Penn Station, NY: This project will provide for the renovation of the station Masters Office in Penn Station. Scope of work includes architectural, structural, MEP, FP, communications, electronic safety and security. Ms. Rajashekar prepared electrical quantity take-off and cost estimates for the project.

SDP - Robert Vaux School, Philadelphia, PA: Work included conversion of Middle school to High school, addition of a second level high school gymnasium and support facilities and renovation of existing interior spaces to provide three classrooms, new science laboratory classroom, new vocal and instrumental music classrooms, new media center, administrative office space and limited renovations to existing toilet rooms. Ms. Rajashekar was responsible for quantity take off and preparation of project cost estimate.

SDP - Palumbo Academy High School, Philadelphia, PA: The renovations include new science classrooms and laboratories, a music suite, an art suite, another refurbished gymnasium, renovated restrooms, an upgraded auditorium, and upgraded electrical systems to accommodate additional technology. Upon completion of the renovations, the school will occupy 185,200 square feet.

SDP - New Lincoln High School, Philadelphia PA: Construction of new high school building and demolition of existing school building. Ms. Rajashekar assisted in the preparation of the cost estimate by performing quantity take off for Site, Architectural, and Structural divisions.

SDP - G W Carver High School, Philadelphia, PA: The project involved alteration of existing school (124,381 SF) and addition of new gymnasium & kitchen (35,000 SF). Ms. Rajashekar was responsible for preparing plumbing, HVAC and electrical cost estimates.

SDP - John Bartram High school, Philadelphia PA: Work involved demolition of the existing rooftop of greenhouse, roofing alterations, exterior repairs, renovation of horticultural room, and science laboratories. Provided electrical and mechanical quantity take off, schematic and construction cost estimate.

KENNETH A. CLAUSEN, PE *KS Engineers, P.C.*
Structural Task Leader

EDUCATION
MS/Civil Engineering, University of Illinois, 1967
BS/Civil Engineering, University of Illinois, 1966

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Professional Engineer – NJ (# [redacted] Received: 1985, Expires: 4/30/12), NY ([redacted] Received: 1983; Expires: 9/30/11)

TRAINING
The Mini Bridge – Culvert Planning and Design, Rutgers University, Spring 2009
LRFD Steel Bridge Design course, presented by Highway Bridge Services, Boston MA, May 2010
Accelerated Construction Using the Northeast Extreme Tee (Next) Beam, presented by PCI, April 2009
Applications of Fiber Reinforced Polymer (FRP) Composites to Bridge Rehabilitation and Design, presented by ASCE at NJIT including a speaker from FHWA, April 2010.

PUBLICATIONS
Co-author and presenter of paper for 2003 NYC Bridge Conference
"Refined LRFD Analyses Used to Check Inverset Design."
Author and presenter of paper for 2004 national Concrete Bridge Conference
"Striving for 100-Year Bridge Decks –Overcoming Chlorides and Cracking"

EXPERIENCE SUMMARY
Mr. Clausen has 42 years of diverse structural/bridge engineering experience including corporate oversight, section and project management, and design for both highway and railroad bridges. He has designed steel girder and prestressed concrete girder railroad and highway bridges and miscellaneous structures for expressways, river crossings, and railroad relocation projects. He has also led numerous special structural investigations and repair/rehabilitation studies and plan preparation for a variety of clients including the Port Authority. He is the Director of Bridge Design at KS Engineers.

PANYNJ, Performance of Expert Professional Structural Engineering Services (MBE/WBE) On A "Call-In" Basis During 2008, 2009 and 2010 – PA Agreement #'s 415-08-058, 415-09-058 and 415-10-058 – Deputy Project Manager / Task leader for structural engineering services on a "Call-In" basis for the Port Authority of New York & New Jersey. Services provided under this contract generally consist of preparing structural engineering studies, condition surveys, designs, contract drawings, technical specifications and construction cost estimates for a wide variety of new facility structures and structural renovation and rehabilitation projects.

PANYNJ, Performance of Expert Professional Structural Engineering Services (MBE/WBE) On A "Call-In" Basis During 2008, 2009 and 2010 – JFK Airport – Aqueduct Bridge Crossing Stages 3 & 4, NY – Project Engineer for structural design services for contract repairs to the JFK Airport Aqueduct Bridge railings and expansion joints. He was Task Leader during Stage III for performing structural design and preparing the structural contract drawings for the necessary repairs. He investigated the use of Asphaltic Plug Joints, which were used and developed a simple method of ensuring field fit for the railing repairs. .The scope included preparation of General Drawings as well as the structural plans..

PANYNJ, Performance of Expert Professional Structural Engineering Services (MBE/WBE) On A "Call-In" Basis During 2008, 2009 and 2010 – Protective Structures at JFK Airport – Taxiways Q and A, NY - Project Engineer for providing design services for protective slabs at Taxiway A and Q at JFK Airport in Queens, NY. Led the structural design and preparation of structural contract drawings for protective structures over the Junction chamber and triple barreled culverts that run under Taxiway's Q and A. The protective structures are to carry the loads from various aircraft specified by the Authority with allowances for future increases in load and impact. Protective systems include precast slabs, cast-in-place slabs and a steel beam framing system with a steel plate

deck support system. The work also includes preparation of General Drawings and incorporating requirements and drawings from various non-structural disciplines. KSE prepared detailed cost estimates as well as an estimate of the construction duration. During stage IV, KSE attended a preconstruction meeting, reviewed shop drawings, and responded to requests for information.

PANYNJ, Performance of Expert Professional Structural Engineering Services (MBE/WBE) On A "Call-In" Basis During 2008, 2009 and 2010 – JFK Airport – Reconfiguration of Fuel Truck Loading Racks – Project Engineer for Stage I&II design of miscellaneous structural supports for the fuel truck loading racks.

PANYNJ, PATH Rail Structures East & West of Newark Penn Station, NJ - Structural lead for the inspection and rehabilitation of bridge superstructures, piers and abutments used by PATH, some of which were owned by AMTRAK. Project included the development of repair recommendations, contract plans, and services during construction. Bearings were monitored periodically over a 2-year period.

PANYNJ, Amsterdam Avenue Bridge over Trans-Manhattan Expressway, NY - Project Manager for the inspection, evaluation and plans for extensive deck and structural repairs to this structure to the west of George Washington Bridge. Staging of construction, utilities coordination, and M&PT were major considerations.

PANYNJ, Expressway over Amtrak and LIRR, NYC, NY - Project Manager for the inspection, evaluation and plans for extensive deck and structural repairs for this structure leading to the Lincoln Tunnel. Designed emergency repairs when it was discovered that the strands in a prestressed concrete deck panel were extensively corroded. M&PT and coordination with Amtrak, LIRR and NJ Transit were required.

NYSDOT, Richmond Road Bridge Design, Rehabilitation and TMS Measure as Part of 21 Bridge Contract on Staten Island Expressway, Richmond County, NY (Contract D010248) – Project Engineers for structural design of four bridges carrying Staten Island Expressway (S.I.E.) WB and EB over Richmond Road and Targee Street, replacing the steel beam bridges and widening the S.I.E. using prestressed concrete box beams. A similar project is underway for the steel beam superstructure and widening of the Renwick Street Bridge. Prestressed concrete NEXT beams and box beams were evaluated for the replacement. Abutments were also widened.

MTA LIRR, Contract No. 5973-1-5, Release A, POJ6243 – Design for Shinecock Canal, Montauk Highway and North Highway Bridge Rehabilitation Project – Project Manager for KSE's portion of the rehabilitation of three (3) Long Island Railroad bridges located in Hampton Bays, Suffolk County, NY. Responsible for computation of As-Built and As-Inspected Ratings for the North Highway Bridge and the Montauk Highway Bridge including estimates of remaining fatigue life. He performed the conceptual design study for the replacement of the North Highway Bridge abutments and superstructure according to two alternatives, attempting to accomplish the complete replacement in 48 hours. Construction schemes and conceptual cost estimates were prepared for the two schemes. Work also involves computing quantities and estimating costs at the various phases of the work as well as performing a general review of the rehabilitation plans by the prime consultant.

NYCDOT, 145th Street Bridge Reconstruction Support Services, New York, NY - Provided oversight for shop drawing review of bridge deck replacement using prefabricated Inverset and Effideck systems.

MTA Bridges & Tunnels, Brooklyn-Battery Tunnel Deck Slab Rehabilitation Study, NY - Project Engineer for study of methods for the long-term rehabilitation of the elevated deck slab in the Brooklyn Battery Tunnel. The deck slab was extensively deteriorated and lane closures were permitted only during night-time hours and on weekends. Various methods of demolition were investigated including hydro-demolition. Various repair and overlay materials were investigated including LMC, rapid-set concrete, and high performance concrete. SHRP Reports were studied and industry experts were contacted for state-of-the-art recommendations. An in-depth constructibility study was performed and cost estimates prepared.

FRED KOOMSON
Civil Inspector

KS Engineers, P.C.

EDUCATION
AS/Civil Engineering, City and Guilds of London Institute

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
NICET II Equivalent

EXPERIENCE SUMMARY
Mr. Koomson has over 16 years of Construction Inspection working for agencies that include the PANY&NJ, NYC DDC, NYC DEP and others agencies providing construction oversight. A sampling of project's with relevant project experience follows:

PANYNJ, New Jersey Marine Terminal Construction – Civil Inspector monitoring activities at Marine Terminal construction sites. Work includes installation, testing and inspecting Civil works. Provides oversight to ensure construction progresses as scheduled and contract specifications are adhered to. Prioritizes multiple assignments, maintain deadlines, and works in a team environment. Inspects construction site daily and works with contractors to schedule deliveries, follow safety requirements, adhere to quality and code compliance; files daily narratives and progress reports detailing personnel, equipment, materials and work summary.

Over the last twenty-six months, Mr. Koomson has performed construction inspection on the following projects:

- **Port Elizabeth Expressrail,** Elizabeth Lead Tracks & South Bay Avenue - work consisted of construction of second lead track into Expressrail, reconstruction of existing lead track, construction of rail bridge over McLester St., reconstruction of Bay Ave., construction of new South Bay Ave. roadway, utility and other related work.
- **Port Newark** – Berth 8 & Berth 10 Wharf Reconstruction - work consisted of demolition of existing wharf, dredging and berth deepening, steel pile & steel sheet piling installation, installation of gabion walls, concrete deck reconstruction, paving & utilities.
- **Port Elizabeth** – North Ave/McLester St. Curve Realignment – work consisted of roadway realignment, including paving, utilities, traffic controls, overhead signage, storm water treatment units and related work.
- **Port Newark** – Port Street Interim Traffic Improvements - work consisted of removal of concrete islands and traffic controls; installation of guiderails, traffic barriers, signage, pavement markings and electrified traffic control devices at Port Street and vicinity.
- **Port Newark** – Berths 36 & 63 Wharf Reconstruction - work consisted of removal and disposal of existing wharf, dredging, upland disposal of dredged materials, steel pipe piles, sheet piles and other marine construction, paving, utilities and related work.
- **Immediate Repairs, Berths 10–12 -** repair of concrete encased piles.
- **Immediate Marine Rehabilitation,** repair of concrete encased piles.
- **Concrete Roadway Rehabilitation** – Repairs to North Avenue Bridge & Corbin Street Ramp; work included removal of deteriorated concrete and placement of new concrete and Latex Modified Concrete.
- **Immediate Repairs - Corbin Street** – excavated deteriorated concrete and replaced with Latex Modified Concrete (LMC).

NYCDDC, Reconstruction of Frederick Douglas Circle Project, Borough of Manhattan – Senior Construction Inspector The project involves reconstruction of this circle to include the erection of Figure monument in tribute to Frederick Douglas, fountain and constellation wall and quilt pattern design. The project also includes installation of 48", 20" and 12" sewers, heritage and standard traffic signal and street lighting, along with complete granite curb,

sidewalk and roadway construction, and tree planting. He also attended all critical phase meetings.

NYCDDC, HWK614B1, Reconstruction of Bergen Avenue Area in Brooklyn – Senior Construction Inspector responsible for construction oversight on a $27.7 million project. The work includes the installation of sidewalks, roadway, center mall, storm and sanitary sewers and the complete street and sidewalk reconstruction within approximately 16 residential blocks just west of Paerdegat Basin. The storm sewers were built on piles while most of the sanitary sewers were placed on the same lane as the existing sewers that were removed.

NYCDDC, Contract MED-579/Abandonment of Existing High Pressure Fire System in Lower Manhattan – Senior Construction Inspector responsible for the inspection of the removal of hydrants, hydrant valve boxes and main line valve boxes. Inspection of concrete and asphalt restoration surveys and does the preparation of Punch list for the final inspection. Also, he does testing and inspection of the concrete (Slump test, Air test, Temperature), plus the inspection of MPT.

NYCDEP, Installation of Sewers in Linwood Avenue, Staten Island, NY, Project No. SE-247A/SER002155. This project involved installation of 12" ESVP gravity sewers and 5'6" x4" concrete box culvert sewers. His duties include record keeping, project status/completion reports, documentation supporting contract payments, balance of materials, fixed assets reports, field cards, in-service notification and change orders.

New Jersey Turnpike between Interchange 8 and 13 Linden City, Union County. Senior Construction Inspector for the widening project.

NYCDEP, Victory Boulevard Sewer Project in Staten Island (SE208A/362A). Construction Inspector responsible for construction oversight on project. This project included installation of gravity sewers, utility crossing and pavements and sidewalk restoration.

GREGORY T. LEGGETT *KS Engineers, P.C.*
Construction Inspector - Electrical

EDUCATION

Union County College – Inspectors (Electrical) Licensing Course (ICS, HHS, Sub code official)
New Jersey Institute of Technology (NJIT) – Electrical Technology - Electrical Contractors licensing course
I.U.O.E. AFL-CIO Local 68 Electrician Apprentice School

PROFESSIONAL REGISTRATIONS

Licensed in New Jersey as:
Electrical Contractor (#[redacted]
Electrical Inspector ([redacted]
Electrical Sub-Code Official (#[redacted]
Construction Official

Licensed in Pennsylvania as:
Residential Electric Inspector (#[redacted]
Commercial Electric Inspector (#[redacted]
Plans Examiner

CERTIFICATIONS

OSHA Construction Safety & Health, Issued 6/25/08

EXPERIENCE SUMMARY

Mr. Leggett has over 15 years of Electrical Construction experience and is a dedicated hands-on electric systems specialist. He has handled small-to-large projects involving electrical & energy based problems / solutions. His strengths include adherence to strict regulatory compliance procedures and regulations, detailed project documentation, complete facility audits, field staff training, and managing multi-level contracts.

PANY&NJ, Newark Liberty International Airport, CTA Toll Plaza & Terminal B Renovations – Electrical Inspector responsible for the inspection of the installation and/or commissioning of electrical equipment (including high tension), communication and fire alarm systems, and electrical rehabilitation of existing building systems (including switchgears, switchboards, emergency generators, fire alarm systems). The following is a list of current construction activities at Terminal B:

- Replacement of Transformers @ central heating plant (ongoing) Removal of=2 0and replacement with 2 - 10 MVA transformer
- Installation of EMG Generator in @ central heating plant (ongoing).
- 4,000 kva Genset and enclosure, including 4 ATS switches and implement sequence of ops.
- Demo and retrofit CTA Toll Plaza (ongoing)
- Gut interior and install new elect panels, lighting & HVAC equip. Build and fit up Temp trailer to house personnel during construction.
- Additional Lighting for CTA Mini Plazas.
- Installation of mast tower lighting and controls for parking mini exit plazas.
- Terminal B expansion (ongoing)
- Complete demo and renovation of Terminal B (B1,2 & 3 connectors) elect distribution centers including, Gensets (3), switchgear, main dist panels, sub panels, main feeders, secondary feeders, public address, fire alarm, HVAC, baggage handling system, 3 large sewage pumping stations (w 3ea 40 hp motors & controls) NML & EMG lighting

Selected Responsibilities and Accomplishments

- Managed maintenance contracts for more than 105 buildings. Helped customers save money by ordering the most energy efficient products and insured that energy conservation measures were properly used, resulting in maximum dollar payback.
- Directed & managed installation of energy efficient lighting and / or motor (VFD) systems for more than 95 locations in the NY / NJ metro area. Including automatic data processing, United Water Company, Camden Schools, Cherry Hill Schools, US Postal Service & 30 Shoprite Supermarkets which resulted in electric bill reductions, utility rebates, and savings of 25% or more in each location.
- Conducted training sessions for project managers, defining electrical "rules of thumb" and key NEC problems on various job sites. Decreased project run times by 9%.
- Trained customers on proper use of installed energy monitoring systems. End users were able to properly use the newly installed energy conservation measures, which ensured maximum energy savings.
- Inspected and certified large & small industrial, commercial, and residential electric equipment, wiring, and installations in New York City, New Jersey, southeastern Pennsylvania and Delaware. Insured compliance with the National Electric Code, and local codes. Included but not limited to: service entrance equipment, lighting, motors, motor controls, HVAC, emergency & standby power equipment, above / underground wiring, single and multi unit housing, conduits and plan review for all mentioned.
- Analyzed electrical harmonics issues for Cherry Hill School systems. Utilized data recorders to determine where schools were not receiving proper voltage from the local utility. As a direct result, the utility companies installed new transformers, at no cost to the customer or SYCOM.
- Presented building electrical system audits to customers, indicating potential trouble areas, and areas where optimal energy savings could be achieved.

DICKSON OPONG, PE *KS Engineers, P.C.*
Project Manager

EDUCATION
MSE, Civil Engineering, Princeton University/1983
BSE, Civil Engineering, Princeton University/1980

PROFESIONAL REGISTRATION/CERTIFICATIONS
Professional Engineer: New Jersey ([redacted] received 03/1990) and New York ([redacted]
NHI Course 130053A, Bridge Inspection Refresher Course
NHI Course, Steam Stability and Scour at Highway Bridges
AASHTO LRFD Bridge Design Workshop, FHWA/NSBA

EXPERIENCE SUMMARY
Mr. Opong has nearly 30 years of experience in planning, preliminary and final design, development and implementation of bridge and highway projects for New Jersey Department of Transportation, Port Authority of New York and New Jersey, New Jersey Turnpike Authority and other public agencies in tri-state region. He has demonstrated excellent technical and managerial skills on several infra-structure improvement/rehabilitation projects for many pubic transportation agencies. He is a Vice-President and Head of the Structures Department of KS Engineers.

PANYNJ, Performance of Expert Professional Structural Engineering Services (MBE/WBE) On A "Call-In" Basis During 2008, 2009 and 2010 – PA Agreement #'s 415-08-058, 415-09-058 and 415-10-058 - Project Manager responsible for providing structural engineering services on a "Call-In" basis for the Port Authority of New York & New Jersey. Services provided under this contract generally consist of preparing structural engineering studies, condition surveys, designs, contract drawings, technical specifications and construction cost estimates for a wide variety of new facility structures and structural renovation and rehabilitation projects. Assignments to date have consisted of the following:

- Multi-Facility CAD Drafting Services
- JFK Airport –Protective Slabs on Taxiways, Q & A
- Structural Engineering Services / Staff Augmentation
- PATH - Installation of Backflow Prevention Devices
- LaGuardia Airport - Upgrade CTB East
- JFK Airport - Fire Alarm Connection for Gas Station - Bldg.#
- JFK Airport – Reconfiguration of Fuel Truck Loading Racks
- JFK Airport - Repairs to Aqueduct Bridge Railings/Expansion Joints
- Stewart Airport - Positive Air Pressure for Loading Bridges
- JFK Airport – Repair of Slab at Building
- CADD Design Services for Navigation Aids Improvements at JFK Airport
- CADD Design Services for Demolition- Hanger 12 &building #94 at JFK Airport
- SWF- Runway Incursion Mitigation Study
- PATH – Installation of Backflow Prevention Devices, Macmillan Bloedel Building
- EWR Airport – Structural Engineering Services –Shop Drawing Review – Stage 3
- EWR Airport – Structural Engineering Services –Shop Drawing Review – Stage 3

NYSDOT, Richmond Road Bridge Design, Rehabilitation and TMS Measure as Part of 21 Bridge Contract on Staten Island Expressway, Richmond County, NY (Contract D010248) – Project Manager for structural design of four bridges carrying Staten Island Expressway (S.I.E.) WB and EB over Richmond Road and Targee Street, replacing the steel beam bridges and widening the S.I.E. using prestressed concrete box beams. Abutments are also being widened.

NJTA, Bass River Bridge Widening and Rehabilitation, Garden State Parkway, Bass River Township, New Jersey—Project Manger for the in-depth structural inspection/evaluation, design of new MSE Retaining walls at approaches of new bridge including utility relocations, survey/mapping and right-of-way plans.

NJTA, Cedar Creek Bridge Replacement, Garden State Parkway, Berkeley Township, NJ. QA/QC Engineer for the replacement of a northbound and south bound 3-span deck slab bridges with wider single-span prestressed girder bridges, according to LRFD. Semi-integral abutments on steel pipe piles are being used. Construction staging to maintain traffic on the Parkway is required.

PANYNJ, 1998 Biennial Inspection of Outerbridge Crossing New Jersey Approach Bridges – Project Manager responsible for supervision and coordination of the project work. Project work involved inspection of fracture critical members, miscellaneous structures, bridge mounted sign structures and preparation of report.

PANYNJ, 1997 Biennial Inspection of the Lincoln Tunnel New Jersey Approach Bridges – Senior Project Engineer responsible for technical review and quality assurance of the project work. Project work involved routine NBIS inspection of approach structures, sign structures, structural rating analysis and preparation of reports. Major parts of the inspections were conducted at night to allow for minimal traffic interruptions.

PANYNJ, George Washington Bridge NBIS Inspection of the New Jersey Approach Bridges, NJ – Senior Project Engineer – Project work involved the NBIS inspection of approach structures, sign structures and light towers. Responsible for technical review of project work which included inspection, load ratings and report preparation.

PANYNJ, Biennial Inspection of 15 Bridges at LaGuardia Airport in Queens, New York – Senior Structural Engineer – Project work included inspection involving bridges with fracture critical members and reviewing inspection reports.

PANYNJ, Rehabilitation Design Study Report of the 102nd Street Bridge Over Grand Central Parkway In Queens, New York – Project Manager – Project work included the inspection and structural evaluation of the bridge for rehabilitation to meet current AASHTO and New York State Department of Transportation design standards and preparation of report.

PANYNJ, Structural Evaluation, Analysis and Load Rating of Floorbeams and Brackets of the Outerbridge Crossing between Perth Amboy, New Jersey and Staten Island, New York – Project Engineer – Project work included structural evaluation, load rating and fatigue strength analyses.

PANYNJ, Inspection and Rehabilitation of the PATH Vertical Lift Bridge over Hackensack River in Jersey City, NJ – Structural Engineer – Project work included the inspection of the lift span truss members, counterweights, sheaves and trunnions, fender system and development of repair details and shop drawings.

PANYNJ – Design Services for WTC PATH Terminal Transportation HUB Project – WP # 21 – Project Manager responsible for design services of various temporary structures for WTC PATH Terminal Transportation Hub Project, as design consultant to Phoenix Constructors, JV.. Design included, but not limited to, crane platform, structural bracings, roof structures and columns supports, support of excavation for footings and walls, supports under blast plates construction barricades, under-pinning columns and support beams. Services also included preparation of signed and sealed CADD drawings / calculations and review of shop drawings. Also responsible for additional design services on Task Order No. 26 (Design Engineering Services / MATOC) for cantilevered temporary work platform, and other miscellaneous structural design support for field modification during construction.

NJDOT, Design of Bridge Replacement Project on Libertyville-Plumbsock Road over Clove Brook in Sussex County, New Jersey – Project Manager – Project work included preparation of the final (Phase III and IV) design contract documents for the new replacement bridge and post-award construction engineering services. Designed the reinforced concrete abutments and prestressed box beams as per AASHTO Standard Specification and the New Jersey Department of Transportation Bridge Design Manual and reviewed shop

As good as the reputation of a firm may be, the final quality of their work and commitment to success is really a function of the individuals they assign to a project. It is for this reason we have selected individuals who have a proven track record of managing all aspects, from planning to implementation, of large scale projects. The Jacobs Teams presented to perform Expert Professional Project Management Services offers the Port Authority individuals who have proven themselves to be successful in the delivery of projects, from small to mega. Specific resumes and personnel profiles for individuals we anticipate working on this contract are included in Section C and provide detail of the relevant experience the individuals bring to this project.

In the following section we have included a number of project descriptions that were performed for public agencies. These projects have involved project and program management, project/program scoping, cost and schedule oversight from EIS and planning to conceptual design through contract preparation and construction support services. Our experience with major projects such as the Rehabilitation of the Alexander Hamilton Bridge and the PANYNJ World Trade Center Engineering and Design Services for Streets, Utilities and Related Infrastructure demonstrates our ability to be successful in many project environments.

Nationwide Program Management for Designated American Recovery and Reinvestment Act Projects, Nationwide

Client

Art Misiaszek
[redacted]

National Railroad Passenger Corporation (Amtrak)
2955 Market Street
Philadelphia, PA 19104

Budget

$561 million

Duration of Services

9/2009-2/2011

With the initial passage of the American Recovery and Reinvestment Act (ARRA), Amtrak received over $1.3 billion in stimulus funding to invest in improving its aging infrastructure and, in turn, to help the country get out of recession. Amtrak is working with Jacobs to help implement this massive undertaking within the strict ARRA deadline of completion – February 17, 2011. We are providing Amtrak with nationwide program management and construction management services for more than 100 infrastructure improvement projects. These projects, all funded through the ARRA economic-stimulus package, are located at over 360 specific locations in 46 states and have a potential value in excess of $560 million.

Under this contract, we are managing, procuring and administering, in part or in full, the design and construction of projects. These include maintenance facility upgrades, bridge replacements, track work, security enhancements, and various station improvements.

As part of the procurement process, we are contracting directly with design-build firms to fast track $310 million worth of projects in order to meet the February 2011 completion deadline. With only one full construction season between notice-to-proceed and the ARRA deadline, we have developed a project bundling strategy based on project type and geographic location that will:

1. Create attractive and worthwhile contracts for competitive bidding
2. Encourage small and minority-owned business participation
3. Rely on local firms for fast project implementation
4. Keep projects on schedule and within budget

In support of small and minority-owned businesses, Jacobs and Amtrak have set individual goals for significant levels of small and disadvantaged business enterprise participation and contract projects to create jobs that will further economic recovery and provide long-term benefits.

Systemwide Security Enhancements: As part of our contract, we are performing survey, engineering support, and oversight for the nationwide security program for Amtrak. The program includes both physical and electronic security improvements at many stations, platforms, yards, and shops located throughout the Amtrak system. Services include engineering integrated camera technology with intelligent video, detection, and access control. The systems are designed to afford simultaneous around the clock monitoring, command, and control of real-time video, alarms, and data.

We are responsible for mobilizing and deploying multiple teams to conduct detail surveys of the various stations, platforms, yards, and shops and developing conceptual plans to be issued to various contractors. Additionally, we are developing various documents, including basis of design, cost estimates, and schedules. Following contractor selection, we also will provide on-site oversight to interface with the contractor and local Amtrak staff and assist with conflict resolution.

Charleston Bus Annex, Staten Island, NY

Client

Charles Treubig
[redacted]

MTA New York City Transit
2 Broadway
New York, NY 10004

Construction Value

$113 million

Project Completion

2010

Jacobs is currently serving as the Consultant Construction Manager (CCM) for the pre-construction, design, construction, and closeout phases of the Charleston Bus Annex Design/Build Contract. The new Annex was planned to relieve the severe overcrowding at the Yukon and Castleton Depots in Staten Island and provide additional capacity for the expansion of service on Staten Island where overall ridership has grown from 31.3 million to 39.6 million since 1998.

The new bus annex – bound by vacant properties to the south, a residential area to the north, and a golf driving and pistol range to the southeast and east – will provide operational capacity for 220 MCI buses. The facility consists of a building with a footprint of approximately 81,000 square feet, with outdoor parking areas for buses and employee vehicles. The major work items include:

Blue Line Extension to Largo, Prince George's County, MD

Client

Dan Korzym, PE, CCM
Senior Project Manager
Office of Construction
[redacted]

WMATA
600 Fifth Street, NW
Washington, DC 20001

Construction Value

$215 million

Completion

2005

With an estimated construction cost of $215 million, the Blue Line Extension to Largo was the first major transit extension and was WMATA's first major design-build project for a line extension. As project designer for a joint venture constructor team, Jacobs was responsible for all civil, structural, and site design; facilities design; and systems design of this expanded transit system, including at-grade double tracking, underground/covered structures, cut and cover tunneling and aerial structures.

We also performed an analysis of contracting options, which included a review of the planning performed for and an analysis of benefits, costs, advantages and disadvantages for construction using conventional design-bid-build contracting versus design-build contracting practices. We prepared an independent estimate for completion of the construction using each method.

Jacobs responsibilities included final mechanical design, tunnel ventilation system design and analysis, tunnel and station fire protection, station plumbing and tunnel drainage systems design. Jacobs performed SES analysis of different ventilation options and produced Construction drawings and a smoke management report.

Meadowlands Rail/Roadway Design and Environmental Impact Statement, East Rutherford, NJ

Client

New Jersey Sports & Exposition Authority (NJSEA)
Meadowlands Sports Complex
40 State Hwy Route 120
E. Rutherford, NJ 07073

Project Cost

$150 million

Completion

2007

NJSEA retained Jacobs to provide engineering, planning and environmental services for a new rail station and rail service for the Meadowlands Sports Complex area. The project included preliminary and final engineering and preparation of an Environmental Impact Statement (EIS) for the rail service located within the Hackensack Meadowlands Area, only 8 miles from Manhattan. Consulting services provided by Jacobs for this project include: track alignment; roadway alignment; civil design, structural engineering; station, vehicular and pedestrian facilities; geotechnical engineering; utility relocation; right-of-way documents; surveying; electrical design; railroad signal system design; railroad communications; EIS preparation; permitting; traffic analysis; value engineering; schedules and cost estimates; meetings and coordination; project control; bid services; and post-design construction assistance.

The project required significant coordination between several area stakeholders including the NJSEA, NJ TRANSIT, NJDOT, NJ Meadowlands Commission, Bergen County; NJ Department of Environmental Protection, U. S. Army Corps. of Engineers and the US Coast Guard.

Route 36 Highlands Bridge over the Shrewsbury River, Monmouth County, NJ

Client

Pankesh Pate, PE
[redacted]
NJ Dept. of Transportation
1035 Parkway Avenue
Trenton, NJ 08625

Construction Value

$125 million

Project Duration

2005-2011

Jacobs is the project manager for major feasibility studies, preliminary and final designs and plans, and construction services. We performed feasibility studies to evaluate bridge replacement versus rehabilitation; fixed bridge versus moveable bridge alternatives, and optimum height studies. Also included were an Alternatives Analysis, development of Coast Guard permits, presentation material for community meetings, and alignment studies. The Alternatives Analysis evaluated the impacts and provided both initial and life cycle construction costs for six alternatives for the existing bridge and recommended an Initially Preferred Alternative (IPA). We provided services for:

- Maintaining operations and traffic safety until construction completion.
- Maintaining uninterrupted traffic throughout construction and maintain a vital coastal evacuation route
- Aggressive schedule and rapid construction (2-years) and to minimize environmental and roadway impacts.
- Expediting project delivery.
- Minimizing impact on environment.

World Trade Center Engineering and Design Services for Streets, Utilities, and Related Infrastructure, New York, NY

Client

Vito Ranieri
[redacted]

Port Authority of NY & NJ
115 Broadway
New York, NY 10006

Duration

Ongoing

Project Cost

$180 million

Jacobs, part of the Downtown Streetscape Partners joint venture, is performing engineering and design services for the new World Trade Center (WTC) in lower Manhattan. The project consists of the creation of Greenwich Street between Vesey and Liberty Streets, and Fulton Street between Route 9A (West Street) and Church Street, including the installation of street utilities (water, storm and sanitary sewers, gas, and steam mains) to service the World Trade Center Site.

In addition to the new streets and utilities, Jacobs is responsible for the creation of Liberty Park, a new park adjacent to the WTC Memorial on Liberty Street, all roadway surfaces, sidewalks, street lighting, traffic control measures, appropriate street furnishings, way finding, landscaping and perimeter security measures.

Jacobs manages the design coordination of the streets and related infrastructure designs with all participating stakeholders.

Cross-Bronx Expressway, Section I-95 – Alexander Hamilton Bridge, New York, NY

Client

Syed Rahman, PE
[redacted]

NYS Dep. of Transportation
47-40 21st Street
Long Island City, NY 11101

Construction Value

$410 million

Project Duration

Design: 1994-2009
Construction Support: 2009-2014

Jacobs is the prime consultant for the rehabilitation of the Alexander Hamilton Bridge, encompassing 16 bridges on the CBE between Amsterdam Avenue, and is the Coordinating Consultant for the entire CBE corridor rehabilitation projects. The project required extensive construction sequence development to enable the structure to be rehabilitated while maintaining traffic lane capacity. It also required extensive coordination with numerous public stakeholders.

Jacobs provided in-depth, detailed inspection, load rating, alternatives development, final design, and preparation of construction documentation for the rehabilitation of the main 505 ft span arch bridge over the Harlem River, the replacement of the complete concrete deck of the 1,530 ft long main bridge, the replacement of the tightly curved Ramp TE over the west approaches of the main bridge, the rehabilitation of the connecting ramps between the Cross Bronx Expressway (I-95), and the Major Deegan Expressway (I-87).

Jacobs is performing shop drawing review, and is responsible for providing engineering services for investigating site conditions that lead to field changes, and modifying the design.

Design, Construction, Finance, Operate, and Maintain the Port of Miami Tunnel, Miami, FL

Owner

Gus Pego, PE
District Secretary
[redacted]

Florida Department of Transportation, District Six
1000 NW 111 Avenue
Miami, FL 33172

Contracting Entity

Jean-Francois Cubille
[redacted]
Miami Access Tunnel Consortium

Construction Value

$610 million

Completion Dates

Design: 2014

Operations and Maintenance: 2044

The Florida Department of Transportation is constructing an underwater tunnel in Miami to divert trucks, buses and other port-related traffic away from Miami downtown streets and onto a dedicated roadway connection to MacArthur Causeway and I-395. Major components of the projects are: Widening of the existing MacArthur Causeway Bridge; Tunnel connections between Watson Island and Dodge Island, where the Port of Miami is located and Connections to the existing Port of Miami roadway system.

This is a Design-Build-Finance-Operation-Maintenance project, a format of Public Private Partnership (PPP). The concession term is 30 years after the completion of its construction. Jacobs is the Engineer to the Miami Access Tunnel (MAT) team responsible for the design of roadways, ITS, bridges, tunnels, temporary support of excavations, utilities, and other structures for the project, including structural, geotechnical, electrical, mechanical, tunnel ventilation, fire/life safety, tunnel security, and utility disciplines.

Harmon Shop Replacement, Phase III, Design/Build, Harmon, NY

Client
Michael O'Neill
[redacted]

MTA Metro-North Railroad
347 Madison Avenue
New York, NY 10017

Duration
2006-2009

Construction Cost
$282,600,000

Coach Shop

Harmon Shop Replacement Phase III is the largest engineering and construction project ever awarded by MTA Metro-North Railroad.

Jacobs is the lead partner in the design of the facility and is providing project management, site civil engineering, track design, architectural, electrical engineering, and traction power design. More than 1,500 contract drawings are being prepared on a truly fast-tracked schedule that will require approximately $10,000,000 of design-build work to be performed each month to meet the 29-month schedule.

Jacobs designed the 13.2kV and 480 volt power distribution system for two major shops. Work includes: architectural design of both main buildings; drainage analysis; design of all sanitary, fire, and water utilities; track design; and design of all communications systems, power, lighting, snow melter, traction power, fire alarm, SCADA and security systems.

Introduction

Jacobs is a full service engineering, design, planning, environmental assessment, and construction management firm with offices throughout the United States, including major offices located in New York, New Jersey, and Pennsylvania. Our fundamental business strategy is building long-term client relationships by providing high-quality service and value to our clients. Jacobs is one of the largest global providers of comprehensive professional services including project and program management in the areas of civil engineering, port facilities planning and marine engineering, rail engineering and design, planning, building and site design, materials handling systems, intelligent control systems, construction inspection and construction management projects. We have an exceptional record of guiding projects from concept through implementation.

Our New York metropolitan offices have over 300 professional staff members dedicated to all disciplines of engineering includes project managers, rail and transportation engineers, environmental scientists, urban planners, architects, economists, urban designers, air/noise specialists, port planners, marine engineers and environmental permitting specialists.

We are proud to be providing a diverse range of high quality engineering services to The Port Authority of NY & NJ currently and for the past several decades. We are excited at the opportunity to add Project/Program Management to the services we provide to you. We recognize the importance of the Port Authority to the transportation and economic well being of the region and understand how essential it is to be responsive to the Port Authority's needs by providing high quality cost effective services.

Organization

Jacobs recognizes the importance of the call-in program to PANYNJ. This program enables PANYNJ to quickly and efficiently assign complex projects of varied sizes to capable project managers with the necessary and appropriate technical expertise in the required disciplines. In order for this program to be successful, the Port Authority needs to know that the consultant understands the assignment, the importance of schedule and the criticality of budget. Further, communication between PANYNJ and the consultant and the quality of the work performed is essential in assuring continued successful progress of each task assigned to the consultant.

Jacobs recognizes all of this and has an organization that is responsive to the needs and objectives of the Port Authority. As a result of this understanding we are offering PANYNJ a flexible and cost-effective matrix organization structured to provide only the required support necessary to successfully accomplish assigned task orders. We will identify the correct task leader as well as the most cost effective team with requisite technical capabilities. A Senior Engineer will lead each task by providing supervision and quality assurance on all tasks. As such, the staff will be used only in response to the special demands of the project and the size of the team will fluctuate in response to the workload ensuring that you will receive the maximum return for each dollar spent.

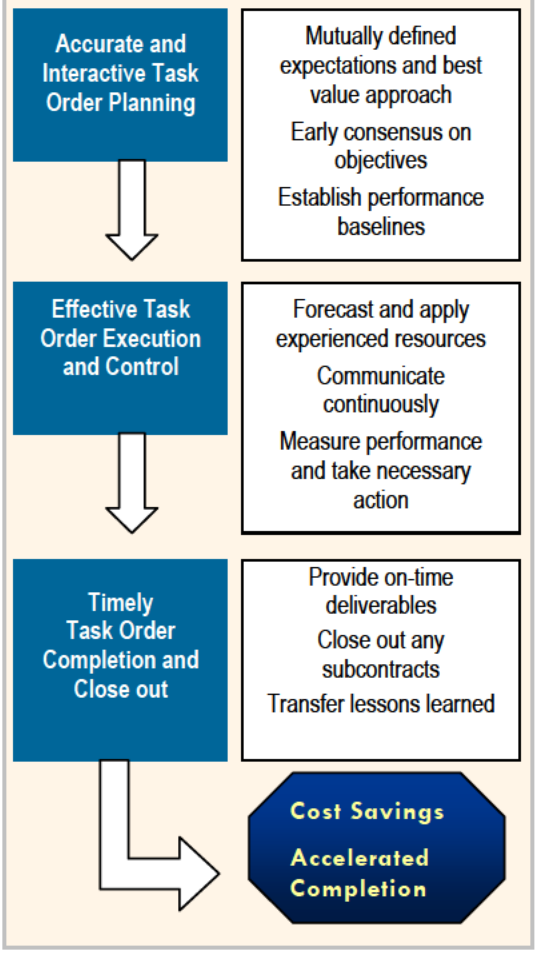
At the start of each task order, our Project Manager (PM), will review the scope of work for that particular task, will assemble a team with the appropriate experience and availability to work the task assigned. As you can see from our resumes, our staff have a broad array of experience, giving us a great depth of resources. The organization follows later in this section.

Management Plan Capability

We have assembled a first-rate team to be on call for this project. Furthermore, we will use an established approach that is based upon our extensive experience in task order contracts and that incorporates best practices and lessons learned (Figure 1). Our Management Approach is based on:

- Close partnering, team building, and joint interactive planning to ensure full understanding and strong working relationships – NO SURPRISES
- Proven systems for cost tracking, forecasting, scheduling, variance analysis, subcontractor management, and project reporting – COST AND SCHEDULE CERTAINTY
- A streamlined program and task order management in which the PM is fully empowered with the authority to execute task orders with direct access to Jacobs' technical capabilities and resources – QUICK RESPONSE
- Proven project management procedures from company-wide task order contracts – LESSONS LEARNED
- Best practices from our other contracts that will shorten our learning curve and streamline execution, reduce costs, and shorten schedules – WORLD-CLASS SOLUTIONS
- Sound workload, staffing and forecasting tools that ensure the right people with the right skills are available at the right time – VALUE FROM YOUR CONSULTANT

Figure 1
Best Value Management Approach



Capacity and Systems to Manage and Execute Multiple, Concurrent Task Order Contracts

Multiple task order, multiple location contracts constitute a very significant portion of Jacobs' work. With over 400 technical staff of all disciplines available in the New York metropolitan area, we have all the capabilities needed to support such contracts for numerous clients simultaneously. These personnel are available to support the PANYNJ tasks when the discipline specialty is required.

Team Leadership

The key to being responsive to PANYNJ and to meeting its needs timely is the ability to provide personnel with the necessary project management expertise to staff any size project for the Authority on short notice as the need arises. Jacobs will accomplish this by providing immediate response to the Authority's request for a project management team.

Jacobs has assembled a Team of technical professionals with the experience and expertise for the Performance of Expert Professional Project Management Services As Requested on a Call-In Basis

During 2011, 2012, 2013, and 2014 (RFP22388) that achieves the Authority's objectives. This call-In agreement will be under the overall direction of Jacobs' Project Director, **Stanley Rosenblum**, who will be responsible to PANYNJ for all matters relating to contractual obligations. He is acutely aware that ensuring staff availability is critical for these types of agreements and therefore he will see that the proper resources of the firm are available to PANYNJ as required to address individual project workload and schedules.

Our Project Manager, **Michael Murno, PE,** will maintain complete control for the management of the contract in all phases. Mike has demonstrated repeated success in being responsive to our clients by providing timely and cost effective support as requested. Mike's background, with management of large scale projects ensures full understanding of how to efficiently manage unique projects. Mike will be the single point of contact throughout the life of the contract and is committed to close coordination with the PANYNJ project manager. Mike's overall goal is to assure Jacobs' responsiveness to PANYNJ by providing high quality and timely products and services. His detailed responsibilities include:

- Preparing/negotiating proposals for each project assignment
- Assigning the proper staff to each project assignment
- Coordinating all work elements and disciplines, including interaction with subconsultants
- Ensuring the Authority's goals/objectives, as set forth in the individual proposals, are met as each project progresses
- Maintaining the schedule and budget of each project assignment

Our Quality Control Advisor**, Michael Kennedy, PE,** is currently the manager of the New York infrastructure office and will provide the QA/QC guidance and oversight throughout the project as well as guide the development of our Quality Plans and design documents, ensuring that products of the highest quality are delivered to the Port Authority.

Role of Subconsultants in the Organization

While Jacobs possesses the depth and mix of engineering design and construction support resources and expertise to support the PANYNJ task orders, we will subcontract selected services in the execution of this contract. As a company, we are committed to maximizing the participation of disadvantaged enterprises and will make every effort to meet the PANYNJ's MBE and WBE goals.

MBE/WBE Participation

Jacobs is committed to supporting and maximizing the participation of the MBE/WBE firms in support of the goals and objectives of the PANYNJ Diversity Program objectives. In an effort to meet the PANYNJ's goals of this program, we have assembled a team of MBE and WBE firms who will contribute value to this project. In order to deliver a quality and cost effective program to the PANYNJ, we have carefully selected MBE/WBE firms with whom we have successfully worked, either individually or collectively, on a variety of past projects. These firms all have past experience working successfully on projects for the PANYNJ. The following table lists the firms that will be part of our Team, summarizes the services they will provide and lists each firm's MBE/WBE certification.

FIRM	MBE/WBE %	SCOPE OF WORK	CERTIFICATION NUMBER	EXPIRATION DATE
KS Engineers, PC 494 Broad Street Newark, N. J.	Combined with JCMS to meet 12% MBE Goal	Structural, Electrical, and Civil Design	PA-20373	03/14/2015
JCMS, Inc. 1741 Whitehorse-Mercerville Road Mercerville, N.J.	Combined with KSE to meet 12% MBE Goal	Scheduling and Cost Estimating	PA-19889	09/07/2011
B. Thayer Associates 100 Crossways Pk Dr. W. Suite 104 Woodbury, NY 11797	WBE Goal 5%	Design/Inspection	PA-13953	09/09/2013

Scope of Services

The general scope of work for the projects to be assigned under this agreement will be to provide project management services for various project/programs at the Authority's facilities. Together with our sub consultants, we will provide project management, project/program scoping, cost and schedule oversight from conceptual design through contract preparation, and construction completion for projects in any of these areas: structural/bridge, aviation, marine, port, civil, rail, tunnels, bridges, terminals, traffic, mechanical, electrical and plumbing facilities engineering design and/or construction. Jacobs will be directly responsible for the overall quality of the project(s) and we will extend our commitment to quality to our entire team through quality reviews and in-house progress meetings.

Jacobs has successfully performed all these services in all areas, on varying size projects and for numerous clients. Our project experience, as well as our Team's individual resumes, demonstrates that we have a depth of experience as well as the right people who will deliver the projects for the Port Authority on time, within budget and at the highest quality level. We will offer the Authority the right person to lead the project and the right team to provide the needed support.

Jacobs commits to performing the services at the Authority's facilities as directed.

Task Order Proposal

Upon notification of a project task order assignment the Project Manager, Mike Murno, will coordinate with PANYNJ's Project Manager a site/scoping meeting, which both of them will attend along with key engineering discipline leaders/project engineers. Project objectives, as well as the general scope of work to meet these objectives, will be agreed upon at that time. These discussions, along with a review of available information will serve as the basis for the proposal submission.

A proposal for the specific task order assignment will be prepared. The proposal, typically prepared in letter format, will generally contain the following information for the Authority's review:

- Task name and number
- An opening statement identifying the goals and objectives of the project

- A description of the project scope of work on a task-by-task basis
- A description of any assumptions on which the proposal is based
- A staffing table that presents estimated staff hours for the project broken down by the tasks described in the scope of work
- A description of the quality control procedures that will be applied to each task
- A cost summary that presents:
  - ✓ Total salary costs by personnel classification
  - ✓ Breakdown of direct expenses
  - ✓ Summary of subconsultant costs
  - ✓ Total estimated fee
- A staffing table and cost summary for each subconsultant as required
- A project schedule

Mike Murno will be responsible for submitting proposals for individual task order assignments generally within five days of the site visit as well as assigning staff.

Task Organization

Our Project Manager, **Mike Murno**, will manage the Jacobs Team throughout the contract. The New York and New Jersey offices have the required personnel resources and company infrastructure support for project controls, contract management, and administrative services, as well as established equipment systems such as communications, computer workstations, servers, MIS, printers, plotters, and CADD systems. To ensure a responsive and effective management organization, we empower at the lowest required level, promoting rapid decision-making, effective allocation of resources, and rapid task order mobilization. Each task will have a Task Leader with experience appropriate to the work to be performed. The Task Leader will report to Mike Murno for the successful completion of the assignment.

Communications

Effective communication is a key factor in the successful execution of individual and especially simultaneous assignments. Clear reporting and communication procedures within the Jacobs Team and with the PANYNJ staff is essential in achieving effective control, timely guidance and consistent monitoring of the program.

A Communication Plan is an integral element of our project procedures and will include:

- Established project reporting requirements and formats, both internal and external to each task order team
- Contact information for each key team member (PANYNJ and Jacobs)
- Scheduled meetings for each task order team including meetings with the PANYNJ representatives
- Issue resolution (both during scheduled meetings and for immediate action)
- Emergency reporting procedures
- The use of common platforms that ensure connectivity and compatibility for reporting and data/drawing transfer
- Web page utilization

The PM and the task leaders for each assignment will meet with representatives of the Port Authority monthly, or more frequently as needed, to obtain available information, review the project schedule, and maintain coordination efforts. Progress meetings are valuable in assuring that all task participants have the same information, to clarify questions and alternatives, operational information that may affect design and to keep the design team fully synchronized. The process ensures that the channels of communication remain open between PANYNJ and the Jacobs Team throughout the project.

Contract Mobilization

Upon notification of award, the Jacobs Team will be activated in order to ensure quick responsiveness in mobilizing for task orders within expedited time periods.

A client expectation survey and kick-off meeting will be conducted to confirm full understanding of PANYNJ's requirements and understanding of overall program and project requirements.

Project Procedures Manual

One of our mandatory requirements is to completely plan the work at the onset of the project. The plan is used to progress and monitor the project. Development of the plan entails preparation of an in-house Project Procedures Manual (PPM), which includes a Project Criteria Document (PCD) and a Quality Plan (QP) for every project. The PM is responsible for preparing these documents. The PPM is prepared to provide each task order team with a clear and concise team organization, schedule, scope of work, and detailed administrative procedures for execution of the specific task order. The PCD is the basis for all technical work to be done on the project and establishes the guidelines for each individual task order. The outline PCD is established at the commencement of the contract, and is updated as each task order is requested of the Jacobs Team. The QP provides the project team a document outlining the quality goals, control, assurance, and procedures for reviewing and checking project deliverables. The PM is responsible for the project administration, staffing, schedule, contact with you, reviews with your engineers, budget and quality control, and the day-to-day operations of the project.

Task Order Execution Plan

For each task order we will:

- Work with PANYNJ to clearly define the delivery requirements of the task order
- Determine staffing for the task order team and mobilize personnel
- Conduct initial site visits as required to understand site conditions, climate and topography, local design/construction requirements, cultural parameters, neighboring facilities and utilities, etc.
- Obtain and review all applicable documents, existing drawings, codes, regulations, etc.
- Develop Scope of Work (SOW) for any subcontractors and obtain quotes from subs
- Establish performance measures and milestones
- Develop a Task Order Hazard Assessment Safety Action Plan
- Establish a Task Order Execution Plan based upon the above steps
- Develop a WBS based on the SOW to individual activity/element

- Develop a schedule
- Develop the cost estimate
- Review and modify the Quality Plan
- Update the Project Criteria Document

Project Controls

1. Cost Control Design – Controlling cost through planning and operational efficiency

We begin cost control during the early planning phases of each project. During the scope definition and proposal phase, our PM and key discipline leads clearly establish the scope, technical approach, and schedule to effectively execute each task order as defined in the PANYNJ's scope. We maintain cost control by holding monthly project financial review meetings where continually reviewing the scope of services to make sure that we remain within scope limits. At the monthly meetings the project budget is reviewed and the project progress is compared with the estimated cost to complete. Typical actions that we've implemented include adding or modifying staff to account for specific project elements as they develop and revising a task procedure to take advantage of newly gained information. For example, we may find that certain operational combinations and design conditions may apply to multiple locations, making the design process more efficient.

The time we invest in planning before design is "kicked off" effectively reduces design cost by eliminating unfocused effort and results in lower cost to you. Our task order team prepares detailed work plans with associated cost breakdowns, which are summarized in proposals provided to the Port Authority.

2. Cost Control Construction – Controlling construction cost and designing to budget

Effective cost control ensures that money is spent efficiently and that cash flows are appropriately matched to your design services and construction work. All personnel identified to support the Call-in contracts know that cost control depends upon an achievable budget, value engineering, continuous and accurate cost estimating, carefully managed procurement, and a proven project accounting system. We approach cost control early by:

- Establishing budgets and contingencies
- Developing a cost-based risk analysis of conditions impacting cost
- Evaluating possibilities of outside influence: market conditions, inflation, labor shortages, or design uncertainties
- Using parametric estimating techniques at each milestone
- Making adjustments to the design to adhere to established cost targets

3. Compliance with performance schedules through schedule control and planning

Like cost control, schedule control begins in our Interactive Planning Sessions in which we bring together our relevant design disciplines and technical experts to develop the best technical approaches. We will also invite and encourage representatives of the Port Authority to participate in this process. Interactive Planning (IAP) helps identify efficiencies and schedule delay avoidance strategies before start-up and throughout the life of each task order. Our IAP team analyzes and evaluates alternative technical and design solutions, work sequencing, and resource need.

Jacobs will maintain an interactive software based project schedule consistent with the Authority's goals and objectives. The bar chart schedule will include the individual project task time frames, task dependencies, milestone dates, and critical path. The schedule will be a living document and reflect project decisions and events.

4. Monthly Reporting

Jacobs will submit a work plan progress report on a monthly basis and task by sub-task to keep the Port Authority informed of the design progress. The report will consist of the following: 1) summary highlighting the key events that happened during the previous month, overall budget status, percentage of design completion, upcoming deliverables and key issues that require attention, if any; 2) description of work completed the previous month, and work anticipated for the coming month; 3) cost control by comparing actual cost incurred to date; budgeted amount; actual value of work performed; and the budget remaining; 4) required actions, key decisions, information required, and areas of responsibility; 5) an updated project schedule comparing actual status of each task order and anticipated schedule (for any sub-tasks within a task order that may be slipping, the reasons for the sub-task slippage and an outline of corrective measures to bring the sub- task back on schedule); 6) a staff loading plan showing anticipated staffing requirements versus actual staff used for each task order.

In addition to the scheduled coordination meetings with the Authority's Discipline Lead Engineer(s) and other potential agencies, Mr. Murno will conduct internal progress meetings with key personnel to maintain a proactive and collaborative approach. These meetings will focus on deliverables, project schedule, goals and objectives, quality, and budget, as these items are paramount to success. We welcome the Authority's Discipline Lead Engineer(s) to attend these meetings, which will be held on a regular basis.

Quality Control

1. Quality planning at the proposal stage

Quality work is a top priority for Jacobs and is assured by early project planning and ongoing review. We achieve quality through procedures as well as by having qualified experienced professionals preparing our analyses, studies and designs. During each task order initiation, we select our team from our resource pool based on the scope of services and the experience background of the team. This alignment of statement of work requirements with the skill sets and experience of our people is our first step in ensuring that the highest quality work is achieved. As the performance plan is developed, our project manager identifies and schedules all required quality control (QC) activities and milestones. By clearly identifying the requirements, staff-hours are budgeted and schedules developed that include the QC activities.

2. Quality during execution

By assigning an experienced team, the knowledge obtained from past designs contributes to a quality new design. In addition, we require that our Jacobs Project Delivery Quality Control process be used on all projects. The process includes formal procedures for assuring quality standards throughout all project phases. Our process facilitates the continuous pursuit of improvement needed to provide best-of-class services for our clients. Any product that goes through Jacobs's quality process meets the customer's needs and requirements.

The Jacobs Quality Control Process has been carefully developed to meet our customers' needs and those of our own organization. It is a documented process whose effectiveness can best be measured by our record of performance. Our process continues after the final QC and delivery of assessments, analyses, studies and design packages to the Port Authority with our staff capturing lessons learned and in order to apply to subsequent projects. In addition to our quality processes, we continuously improve our program execution through the Jacobs Performance Review System (PRS). The PRS includes the following elements:

- Client interview(s) for performance feedback and improvement goals
- PRS report documenting performance rates from clients
- Team feedback and improvement plan development
- Follow-up evaluations assessing progress toward improvement
- Follow-up client interviews for assessment of improvements, and identification of new improvement opportunities

Safety

Safety is more than policies and procedures; it's how we do business and it's how we live. Our people are our greatest asset and the basis for our success. We believe that we owe it to our employees to help keep them and their families, communities, our clients and our contractors safe at all times.

Conclusion

The Jacobs Team is prepared to provide project/program management services to the Port Authority. We understand that the Port Authority is committed to serving the economic and transportation needs of the region effectively and responsibly and we look forward to being able to support PANYNJ in delivering projects on-time, within budget and of the highest quality.

Key Personnel Project Assignment Salary Schedule

Project Assignment/Classification	Name	Hourly Rate, $
Project/Program Manager	Michael J. Murno, PE	87.44
QA/QC	Michael J. Kennedy, PE	101.70
Aviation Facilities	William DeGraaff, PE	74..64
	Chris Bowker, PE	88.53
	David Chamberlain, PE	77.14
	Stephen Flecchia, PE	52.22
	Richard Lasdin, PE	52.61
Rail Facilities	Leo McGlynn, PE	87.08
	Steve Bond, PE	80.12
	Michael Moskowitz, PE	86.10
	James S. Craig	75.00
	William Madden, PE	96.15
	Lewis Morgan, PE	96.40
Tunnels	Igor Maevski, PhD, PE	74.12
	Nick Chen, PE	120.19
	Greg Zdenek	95.29
	Kai Kang, PhD, PE	49.53
	Robert Harvey, PE	65.65
Bridges	Marcos Loizias, PE	119.51
	Avanti Shroff, PE	84.61
	Robert LaMagna, PE	79.57
	Lynne Baumann, PE	103.97
	Todd Schickel, PE	102.67
	Kimberly Murray, PE	67.85
	Wanda Lam, PE	47.59
Terminals	Richard Wenger, PE	72.83
	Vincent Cassano, PE	54.15
	David Fox	36.11
	James Coddington, PE	65.39
	Ron Zwerdling, CCM	57.22
Marine Facilities	Thomas Schanze, PE	86.54
	Christopher Ahern	60.10
	John Larson, PE	103.11
	Kamran Marashi, PE, SE	75.40
	Ronald Zimmer, PE	63.72
	Lauren Brennan, PE	52.29
	Andrew Holland, PE	41.09
	Jessica Forse, PE	62.45
Engineering Support	Toby Kizner, AICP, PP, Environmental	66.00
	Randy Sprague, PE, Constructability	82.44

Project Assignment/Classification	Name	Hourly Rate, $
	John Pavlovich, PE, Planning & Traffic	77.55
	Robert Craig, CPP, Security	66.24
	Stanley Grill, Business Analysis	94.55
	Richard La Ruffa, PE, Risk Management	106.51
	James McCarty, PE, Construction Inspection	91.35
	Stephen Lathrop, PE, Sustainability	60.65
Drafters/CADD	Juan Vivar	45.40
	Alexander Chizhik	45.34
	Jose Cerezo	44.48
	Mark Ellia	51.16

**Principal Billing Rate*

Jacobs

Multiplier: Overhead and Fee Summary

Location	Direct Labor	Fringe	Subtotal	G&A	Subtotal	Profit	Total Multiplier
Home Office	**1.0**	**26.94%**	**1.2694**	**96.32%**	**2.2326**	**8%**	**2.41**
Field	**1.0**	**26.94%**	**1.2694**	**70.0%**	**1.9694**	**8%**	**2.13**

JACOBS

U.S. Policy Supplement		Policy No: USP 5-202	Page: 1 of 4
Overtime Policy and Pay Practices		Supersedes: Rev. 1	Rev. 2
Issuing Department: Human Resources	Approval: Patricia H. Summers	Previous Rev. Date: 01-Oct-95	Current Revision Date: 27-Jun-08

1.0 PURPOSE

The purpose of this policy is to define Jacobs Engineering Group Inc., its subsidiaries and affiliated companies (hereinafter, "the Company") pay practices and overtime pay eligibility, in order to appropriately pay employees in accordance with their classification as defined by the Fair Labor Standards Act, 29 C.F.R. § 541.602 (FLSA).

2.0 SCOPE

This policy applies to all Jacobs employees in the United States.

3.0 POLICY

The Company policy on pay practices and overtime pay eligibility compliance is established to appropriately pay employees in accordance with their classification as defined by the Fair Labor Standards Act, 29 C.F.R. § 541.602 (FLSA). This policy discusses federal regulations regarding overtime. State laws may be more restrictive than federal laws. Local Human Resources representatives will provide details regarding regulations for specific states.

The FLSA is the federal law that establishes minimum wages, premium pay for overtime, child labor protections, and certain record-keeping and posting requirements. It authorizes the U.S. Department of Labor (DOL) to define exemptions from those requirements for bona fide executive, administrative, professional or outside sales employees. It also exempts certain employees in the computer software field.

3.1 The Company's salary pay policy shall be interpreted and applied in accordance with the salary pay requirement of the Fair Labor Standards Act.

3.1.1 Compliance

It is the Company's policy to promptly remedy any failure to properly compensate an employee. Any questions regarding compliance with this policy should be directed to an employee's Human Resources Representative. Questions or concerns may also be directed to the Company's compliance hot line.

Inquiries from government compliance agencies or auditing agencies which are addressed to the Company should be directed to the Senior Vice President, Global Human Resources or Director, Human Resources.

3.1.2 Exempt/Non-Exempt Classification

Pursuant to FLSA regulations, all Company employees are classified as either exempt from overtime pay (exempt employee) or not exempt from overtime pay (non-exempt employee). In certain circumstances, exempt employees may receive additional compensation for work in excess of their regular schedules. It is the immediate supervisor's responsibility to ensure that there is adequate supervision while overtime work is performed.

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3.1.2.1 Non-exempt Employees

3.1.2.1.1 FLSA requires that employees (unless they are determined to be exempt), must be paid at least the minimum wage for all hours worked in the designated workweek and receive overtime pay for all hours worked in excess of 40 hours during the designated work week. FLSA provides that such overtime will be paid on a premium basis, at one and one-half times the employee's hourly rate. These employees eligible to receive overtime premium pay in accordance with the FLSA regulations are referred to as "non-exempt" employees.

3.1.2.1.2 Work should be planned and scheduled to avoid having non-exempt employees work overtime (over 40 hours per week under FLSA). The company reserves the right to require employees to work beyond the designated work schedule when business conditions dictate. Non-exempt employees may not work overtime without the prior knowledge and approval of their appropriate supervisor. Employees who work unauthorized overtime are subject to disciplinary action, up to and including termination. However, all overtime work for non-exempt employees must be compensated, regardless of whether or not it was approved.

3.1.2.1.3 All hours of work must be recorded and compensated. A supervisor may not direct, tolerate or allow a non-exempt employee to work without recording the work time. Any questions regarding what activities are considered to be work must be directed to an employee's Human Resources Representative.

3.1.2.2 Exempt Employees

3.1.2.2.1 Certain types of employees may be excluded from eligibility to receive overtime pay as required by the FLSA. These employees are classified as "exempt". While not required by law, some exempt employees may be provided overtime compensation at the company's discretion in support of certain industry practices or customer request. Overtime compensation to exempt employees is normally provided on a straight time basis. However, there may be situations where exempt employees may not receive the extra compensation for extended work hours.

Additionally, when the demands of business require a pre-determined period of work beyond the designated regular work hours and therefore, overtime is scheduled and authorized in advance, exempt employees may receive pay equal to their straight time hourly rate with the approval of the appropriate supervisor.

3.1.2.2.2 Hours worked by employees are tracked for billing purposes. Exempt employee's salaries will not be reduced for a scheduled work day in which some work (there is no minimum) is performed. If a partial day's absence occurs, the portion not worked shall be charged to the employee's accrued paid time off (PTO), if hours are available. If PTO hours are not available, the hours not worked will be charged to the 555-000 account of the employee's performance unit. Charges to the Company's 555-000 account will need prior approval of the appropriate unit manager.

3.1.2.2.3 Where PTO benefits have been exhausted or have not yet accrued, salaries may be reduced only for the reasons set out below:

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- For unpaid leave as provided by the Family and Medical Leave Act
- For partial initial and final weeks of employment
- For absences of a full day for personal purposes such as vacation, sickness or disability
- For suspensions of a full day or more for disciplinary purposes in accordance with a written policy of general applicability
- For violations of safety rules of major significance
- For absences for an entire workweek for any reason

A reduction in salary must comply in every case with federal and state laws, as well as any contractual obligation.

3.1.2.2.4 The limitations on reducing exempt employees' salaries do not limit the Company's ability to address attendance, tardiness or untimely work.

3.2 Responsibilities

Human Resources is responsible to maintain all employee files relating to compensation and employee status.

3.3 Training

NA

3.4 Audits

The Internal Audit department will review employee status relating to this policy and report exceptions to Human Resources.

3.5 Disciplinary Action

The violation of this policy, including the following misconduct, may result in discipline, up to and including termination of employment:

3.5.1 The falsification of any time record or the alteration of a time record by an employee or a supervisor such that the time record is inaccurate;

3.5.2 Performing work without recording the work time in accordance with this policy;

3.5.3 A supervisor's directing, permitting or tolerating a non-exempt employee to work off the clock or to work in violation of applicable requirements; and

3.5.4 Retaliating or discriminating against a non-exempt employee for accurately reporting all work time or raising a concern regarding the reporting of work time or regarding the employee's compensation or another employee's compensation.

4.0 PROCEDURE

NA

5.0 MAINTENANCE

Human Resources will review this policy periodically against applicable regulations and update as needed.

6.0 DEFINITIONS

NA

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7.0 ATTACHMENTS AND RELATED DOCUMENTS (References)

7.1 Global Company Policy GP-001

7.2 Timekeeping Policy – USP 2-105

8.0 RECORDS

Human Resources will maintain all employee files relating to exempt status and pay practices.

REVISION HISTORY

Rev #	Date	Author	Reason for Changes
2	02/15/08	Corporate Compensation	FLSA regulation update

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Summary of At-Office and At-Site Rates
and
Statements of Fringe Benefit Expense and
General & Administrative Expense in Accordance with the
Federal Acquisition Regulation

North American Infrastructure

(formerly Jacobs Civil)

A Business Unit of Jacobs Engineering Group Inc.

For the Fiscal Year Ended October 2, 2009
With Report of Independent Auditors

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Contents

Report of Independent Auditors	1
Summary of At-Office and At-Site Rates	2
Statement of Fringe Benefit Expense	3
Statement of General & Administrative Expense	4
Notes to Statements of Fringe Benefit Expense and General & Administrative Expense	5

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Cleary & Gill LLC

REPORT OF INDEPENDENT PUBLIC ACCOUNTANT

To: Board of Directors of Jacobs Engineering Group Inc.

Re: Indirect Cost Rates Prepared in Accordance with Part 31 of the Federal Acquisition Regulation

We have examined the accompanying Summary of At-Office and At-Site Rates, Statement of Fringe Benefit Expense and Statement of General & Administrative Expense (Schedules of the Indirect Cost Rates) of North American Infrastructure (NAI), a segment of Jacobs Engineering Group Inc., for the twelve months ended October 2, 2009 prepared in accordance with Title 48, Code of Federal Regulations, Part 31 of the Federal Acquisition Regulation (FAR). NAI is a wholly-owned business unit of Jacobs Engineering Group Inc. These schedules are the responsibility of NAI's management. Our responsibility is to express an opinion on these schedules based on our examination.

We conducted our examination in accordance with the attestation standards established by the American Institute of Certified Public Accountants and also the attestation standards in the *Government Auditing Standards* (July 2007 Revision), issued by the Comptroller General of the United States. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether the Schedules of the Indirect Cost Rates are free of material misstatement. An examination includes reviewing, on a test basis, evidence supporting the amounts and disclosures in the schedules and performing such other procedures as we considered necessary in the circumstances. Our examination also included assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall schedule presentation. We believe that our examination provides a reasonable basis for our opinion.

The aforementioned Schedules of the Indirect Cost Rates were prepared on a basis of accounting practices as prescribed by Part 31 of the FAR as discussed in Note 2, and are not intended to be a presentation in conformity with accounting principles generally accepted in the United States.

In our opinion, the Schedules referred to above present fairly, in all material respects, the Indirect Cost Rates of NAI for the twelve months ended October 2, 2009, calculated in accordance with Part 31 of the FAR.

In accordance with the *Government Auditing Standards*, we have also issued our report dated March 17, 2010 on our consideration of NAI's internal controls over financial reporting and our test of its compliance with applicable laws and regulations. That report is an integral part of an examination performed in accordance with *Government Auditing Standards* and should be read in conjunction with this report.

Individuals relying on this report must have an adequate understanding of Part 31 of the FAR. Therefore, this report is intended solely for the information of management and government agencies for use under contracts governed by the aforementioned regulations. It is not intended to be and should not be used by anyone other than the aforementioned parties nor should it be used for any other purpose.

Cleary & Gill LLC

Arlington Heights, Illinois
March 17, 2010

North American Infrastructure
A Business Unit of Jacobs Engineering Group Inc.
Summary of At-Office and At-Site Rates
For the Fiscal Year Ended October 2, 2009

The At-Office and At-Site rates relative to the audited Fringe Benefit Expense and General & Administrative Expense Statements were computed in accordance with Part 31 of the Federal Acquisition Regulation (FAR).

North American Infrastructure

At-Office

At-Site General & Administrative Rate	70.00%
Use & Occupancy Rate	26.32%
Fringe Benefit Rate	26.94%
Combined Rate	123.26%

At-Site

At-Site General & Administrative Rate	70.00%
Fringe Benefit Rate	26.94%
Combined Rate	96.94%

See the following statements for detailed computations of the above Fringe Benefit Expense and General & Administrative Expense rates and for the applicable explanatory notes.

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North American Infrastructure
A Business Unit of Jacobs Engineering Group Inc.
Statement of Fringe Benefit Expense
For the Fiscal Year Ended October 2, 2009

	NAI DIRECT FRINGE BENEFIT EXPENSE (Note 4)
COSTS, NET OF ADJUSTMENTS	
PAID TIME OFF	$ 21,573,944
FICA	15,039,670
SUI	636,315
FUI	142,486
THRIFT PLAN	4,307,569
GROUP INSURANCE	10,942,944
WORKERS' COMPENSATION	491,948
GENERAL LIABILITY	3,399,330
EMPLOYEE ASSISTANCE PLAN	58,898
TOTAL ALLOCATED FRINGE BENEFITS	**$ 56,593,104**
TOTAL FRINGE LABOR BASE	**$ 210,045,920**
COMPANY-WIDE FRINGE BENEFIT RATE	**26.94%**

The accompanying notes are an integral part of this statement.

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North American Infrastructure
A Business Unit of Jacobs Engineering Group Inc.
Statement of General & Administrative Expense
For the Fiscal Year Ended October 2, 2009

	TOTAL INCURRED G&A COSTS	TOTAL FAR UNALLOWABLE COST ADJUSTMENTS (Note 2)	NOTES	NET CLAIMED G&A COSTS	GENERAL & ADMINISTRATIVE RATE APPLIED TO AT-SITE & AT-OFFICE PROJECTS	USE & OCCUPANCY RATE (AT-OFFICE)
INDIRECT LABOR	$ 54,257,922	$ (196,208)	5	54,061,714	$ 54,061,714	$ -
INDIRECT EXPENSES						
OFFICE OCCUPANCY EXPENSES	32,759,399	(46,222)		32,713,177	8,454,107	24,259,070
PERSONAL COMPUTER SERVICES	16,056,925	(49,361)		16,007,564	46,231	15,961,333
FRINGE BENEFITS	14,618,977	-		14,618,977	14,618,977	-
TRAVEL & BUSINESS MEALS	3,399,746	(322,105)	6	3,077,641	3,077,641	-
VEHICLE EXPENSES	2,069,533	(56,425)		2,013,108	1,711,068	302,040
EMPLOYEE TRAINING & DUES	1,645,294	(283,389)	7	1,361,905	1,361,905	-
BUSINESS LICENSE & TAXES	1,293,204	(151)		1,293,053	1,126,553	166,500
PENSION & STOCK AMORTIZATION	1,247,827	-		1,247,827	1,247,827	-
OUTSIDE SERVICES	1,148,381	(46,568)		1,101,813	1,039,985	61,828
OFFICE AND OTHER SUPPLIES	1,040,262	(218,192)		822,070	1,278	820,792
RECRUITING & RELOCATION	736,225	(202,771)	8	533,454	372,941	160,513
REPRODUCTION	361,544	(11,675)		349,869	3,598	346,271
TEMPORARY STAFF	323,100	(68,163)		254,937	254,937	-
POSTAGE & FREIGHT	193,104	(122)		192,982	192,982	-
PUBLIC RELATIONS & ADVERTISING	106,848	(111,925)		(5,077)	(5,077)	-
COST RECOVERY	(906,070)	-	9	(906,070)	(906,070)	-
OTHER	2,078,145	(884,572)	10	1,193,573	987,510	206,063
SUBTOTAL INDIRECT EXPENSES	$ 132,430,366	$ (2,497,849)		$ 129,932,517	$ 87,648,107	$ 42,284,410
OTHER INDIRECT EXPENSES						
SALES, PROJECT SERVICES & CONST	$ 387,094	$ (1,862)		$ 385,232	$ 385,232	$ -
PUBLIC MANAGEMENT & ADMINISTRATION	277,450	(15,429)		262,021	$ 262,021	-
BONUS PAYMENTS	3,475,525	-		3,475,525	3,475,525	-
EMPLOYEE STOCK OPTIONS/PURCHASE PLAN	257,458	-		257,458	257,458	-
FIXED ASSET (GAIN)/ LOSS	261,835	-		261,835	261,835	-
OTHER	(161,091)	-		(161,091)	(161,091)	-
SUBTOTAL OTHER INDIRECT EXPENSES	$ 4,498,271	$ (17,291)		$ 4,480,980	$ 4,480,980	$ -
ALLOCATIONS						
CORPORATE ALLOCATIONS	56,220,224	$ (1,320,433)	3 & 11	54,899,791	$ 54,899,791	-
SUBTOTAL ALLOCATIONS	$ 56,220,224	$ (1,320,433)		$ 54,899,791	$ 54,899,791	$ -
TOTAL G&A EXPENSES	$ 193,148,861	$ (3,835,573)		$ 189,313,288	$ 147,028,878	$ 42,284,410
DIRECT LABOR (TOTAL AND AT-OFFICE)					$ 210,045,920	$ 160,673,729
NORTH AMERICAN INFRASTRUCTURE INDIRECT COST RATES					70.00%	26.32%
AT-OFFICE GENERAL & ADMINISTRATIVE RATE						96.32%

The accompanying notes are an integral part of this statement.

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North American Infrastructure
A Business Unit of Jacobs Engineering Group Inc.
Notes to Statements of Fringe Benefit Expense and General & Administrative Expense for the Fiscal Year Ended October 2, 2009

1. Business and Basis of Presentation

The financial information presented in the accompanying Statements of Fringe Benefit Expense and General & Administrative Expense includes the expenses of North American Infrastructure (formerly Jacobs Civil) and Jacobs Civil Consultants Inc. (collectively the Company) for the fiscal year ended October 2, 2009. Jacobs Civil Consultants Inc. was formerly known as Sverdrup & Parcel Consultants, Inc. The accompanying statements include the expenses of North American Infrastructure business unit as well as the expenses of the infrastructure operations of Carter & Burgess, Inc. (C&B) which was acquired by Jacobs Engineering Group Inc. in Fiscal Year 2008. The Fiscal Year 2009 company-wide indirect rates presented herein include the operations and results of North American Infrastructure (the Company) and are calculated consistently with the Company's Fiscal Year 2008 company-wide indirect rates.

The Company is a business unit of Jacobs Engineering Group Inc. (Parent Company) and Jacobs Civil Consultants Inc. is a wholly-owned subsidiary of the Parent Company. The Parent Company is a publicly traded company on the NYSE. The Company provides planning, design, construction management and design/build professional services. Major markets include transportation, public works and environmental.

The Parent Company was originally incorporated in 1957, and its clients include federal, state, local, and foreign government agencies, as well as numerous commercial entities. Revenues are derived from billings for professional services: project services; process, scientific and systems consulting services; operations and maintenance services, and construction services.

2. Basis of Accounting and Description of Accounting Systems

The Company's policy is to prepare the accompanying Statements of Fringe Benefit Expense and General & Administrative Expense on the basis of accounting practices prescribed by Chapter 1, Part 31 and Chapter 99 of the Federal Acquisition Regulation (FAR). The above mentioned statements are not intended to present the financial position or the results of operations of the Company in conformity with accounting principles generally accepted in the US.

The Company maintains its books of accounts using the Accrual Method of accounting.

The Company uses a multi-step process to identify and quantify unallowable costs as defined in FAR Part 31. First, the Company identifies certain expense accounts, expenditure types in the general ledger and certain indirect projects as totally unallowable (e.g., interest expense, bad debts expense, etc.) For certain other expense accounts that are likely to contain unallowable costs, the Company either reviews all of the significant transactions in the account or it reviews a sample of the transactions in the account. For those expense accounts that are sampled, the Company extrapolates the results of the sample to the related expense account population. In addition, the Company voluntarily excludes certain other costs from the indirect cost pools, and it uses estimates to determine the amount of certain other unallowable costs.

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2. **Basis of Accounting and Description of Accounting Systems (continued)**

The Company maintains a job cost accounting system based on actual costs for recording and accumulating costs incurred under its contracts. Each project is assigned a unique job number so that costs may be properly segregated and accumulated in the Company's job cost accounting system. Employee labor costs are charged to jobs using the employee's actual hourly pay rate at the time that the labor is incurred. For salaried employees, their actual hourly pay rate for job costing purposes is based on their annual salary divided by 2,080 hours per year.

Direct and Indirect Costs - Costs are specifically identified and recorded separately in formal financial accounting records as Direct Costs and Indirect costs as established in accordance with our disclosed practices. Direct costs are those costs that can be specifically identified to a customer project, work activity or final cost objective. Indirect costs are those costs that cannot be specifically identified with a single customer project, direct work activity or final cost objective. Contract/ Purchased labor is treated as Other Direct Costs.

Paid Time Off - The Company accrues Paid Time Off (PTO) based on the years of service for each employee. PTO may be used by employees for a variety of reasons, including (but not limited to) vacation, illness or accident, bereavement or personal time off. All requested PTO is subject to supervisory approval.

PTO benefits are paid based on the employee's base pay rate at the time that the absence occurs and does not include any special forms of compensation such as incentives, commissions, bonuses or shift differentials. Employees receive pay for all earned but unused PTO hours upon termination of employment

Uncompensated overtime - The Company's policy regarding overtime is to compensate NONEXEMPT employees for authorized additional hours of work. EXEMPT employees record only those overtime hours for which they are authorized to work and accordingly, compensated. As a result, uncompensated overtime is not tracked.

Depreciation - Depreciation and amortization is computed primarily using the straight–line method over the estimated useful lives of the assets. The cost of leasehold improvements is amortized using the straight-line method over the lesser of the estimated life of asset or the remaining term of the related lease. Estimated useful lives range from 20 to 40 years for buildings, from 3 to 10 years for equipment, and from 3 to 7 years for computers and software.

The Company's method of estimating costs for pricing purposes during the proposal process is consistent with the accumulation and reporting of costs under its job cost accounting system.

3. **Allocation Methods**

The Company has established two indirect rates: (1) an At-Office Rate that is applied to work performed in Jacobs-provided facilities, and (2) an At-Site Rate that is applied to work performed at non-Jacobs (i.e., customer) provided facilities. The allocation base for the At-Site G&A rate includes all Professional Services and all Field Staff Direct Labor including premiums. The allocation base for the At-Office G&A rate includes At-Office Professional Services and At-Office Field Staff Direct Labor including premiums.

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3. Allocation Methods

The Company uses the same fringe benefit rate for both its At-Office and At-Site direct labor and allocates fringe benefit expenses based upon total payroll dollars (including premiums and excluding incentive compensation.)

The Company receives an allocation of costs from the Parent Company that includes salaries, related fringe benefits and general and administrative expenses. These costs are allocated to the Company based upon a three-tier method, which allocates costs that are: (1) directly attributable to the Company; (2) separately associated with the Company that are allocated based upon appropriate bases that use direct labor dollars, total payroll dollars, revenues, or a combination thereof; and, (3) amounts remaining after the first two tiers, allocated based upon a two-factor formula that is computed using Professional Service and Field Staff payroll dollars and revenues.

The allocations of the Parent Company's Corporate Home Office costs have been properly adjusted to reflect FAR Part 31 disallowances. These amounts were determined by the multi-step process described above in Note 2. The net allowable costs for each of the Corporate Home Office cost pools are then allocated using the methodologies described above.

4. Fringe Benefits

The Parent Company calculates a Company-wide fringe benefit rate that is applied to its US business units and wholly owned subsidiaries. Fringe benefit costs include an adjustment of the indirect fringe benefit expense recorded in the general ledger at the standard fringe rate of 31.5% to the Fiscal Year 2009 actual fringe rate of 26.94%

5. Excess Compensation

The adjustment amount of $196,208 includes the amount that is unallowable in accordance with FAR 31.205-6.

6. Travel & Business Meals

Based on a review of travel and related costs, NAI disallowed $322,105 in accordance with FAR 31.205-46.

7. Employee Training & Dues

The adjustment amount of $283,389 represents dues that are unallowable in accordance with FAR 31.205-14.

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8. Recruiting & Relocation

The relocation adjustment of $202,771 represents employee relocation expenses that are considered unallowable in accordance with FAR 31.205-35.

9. Cost Recovery

The Cost Recovery accounts are used to charge projects for the usage of company-owned equipment, supplies and vehicles. Portions of the G&A relating to reproduction, vehicle costs, field equipment and supplies and other miscellaneous costs are charged (via a credit to cost recovery) to direct project expense based on actual usage.

10. Other

Included in the other adjustment of $884,572 are the following unallowable expenses of Fiscal Year 2009 actual costs:

Fines & Penalties (FAR 31.205-15)	$ 6,883
Contributions (FAR 31.205-8)	$ 105,500
Internal Promotion (FAR 31.2 various)	$ 376,229
External Promotion Meals, Entertainment & Other (FAR 31.2 various)	$ 367,882
	$ 856,494*

*The remaining balance of the disallowed amount is determined using the methodology discussed in Note 2.

11. Acquisition of Jordan, Jones and Goulding, Inc. (JJG)

On February 15, 2010, the Parent Company acquired Jordan, Jones and Goulding, Inc. (JJG), and the management and operations of JJG have been combined with those of the North American Infrastructure Business Unit (NAI) for the remainder of Fiscal Year 2010. Accordingly, the indirect rates presented herein appropriately do not include JJG. The NAI business unit is not a separate legal entity, and it will continue to operate as a separate business segment of the Parent Company .

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We have carefully selected MBE/WBE firms with whom we have worked successfully, either individually or collectively, on a variety of past projects. These firms all have past experience working successfully on projects for the Port Authority of NY and NJ. The following firms will be part of our Team and providing the services listed below.

B. Thayer Associates	Architecture, Survey, Bridges
JCMS, Inc.	Cost Estimating and Scheduling
KS Engineers, PC	Bridges, Terminals

The parent and affiliates of Jacobs Civil Consultants Inc., located at 5 Penn Plaza, New York, NY 10001, include the following:

Jacobs Engineering Group Inc. (Parent company of Jacobs Civil Consultants Inc.)
1111 South Arroyo Parkway
Pasadena, CA 91105
Tel: 626.578.3500
EIN: [redacted]

Jacobs Engineering New York Inc.
260 Madison Avenue, Suite 1200
New York, NY 10016
Tel: 212.268.1500
EIN: [redacted]

Jacobs Project Management Co.
260 Madison Avenue, Suite 1200
New York, NY 10016
Tel: 212.268.1500
EIN: [redacted]

Section I
Possible Conflict of Interest

In accordance with Subsection I of Section III (Submission Requirements), Jacobs maintains no conflict of interest in relation to the awarding of this contract.

We have reviewed the proposed Performance of Expert Project Management Services as Requested on a Call-in Basis during 2011, 2012, 2013, and 2014 contract and find it to be generally acceptable as the basis for the negotiation of a mutually-agreed-to final contract between the parties.

Louis Berger & Assoc PC
One Seaport Plaza, 199 Water Street, 23rd Floor, New York, New York 10038
Tel (212) 612-7900 Fax (212) 363-4341 www.louisberger.com

October 20, 2010

The Port Authority of New York and New Jersey
One Madison Avenue
Seventh Floor
New York, NY 10010
Attention: RFP Custodian

RE: Request For Proposals For Performance of Expert Professional Project Management Services as Requested on a "Call-In" Basis During 2011, 2012, 2013 and 2014 (RFP #22388)

Dear Sir/Madam:

Louis Berger & Assoc., P.C. (LBA, P.C.) is pleased to submit one (1) original, six (6) copies, and one (1) compact disc copy of its proposal to provide the Port Authority of New York and New Jersey (the Authority) with **Expert Professional Project Management Services As Requested on a "Call-In" Basis During 2011 Through 2014 (RFP#22388).** This proposal is in accordance with the requirements detailed in the RFP, including all addenda.

LBA, P.C., authorized to perform engineering and design services in the state of New York, provides planning, environmental, engineering, construction and program management services to New York area clients and works in cooperation with The Louis Berger Group, Inc. (collectively comprising the LBA, P.C. Team). With support from The Louis Berger Group, Inc.'s worldwide headquarters in Morristown, New Jersey, and other offices in the region, the LBA, P.C. Team is a leading service provider in the greater New York City metropolitan area, including numerous New York City and State agencies. Working with The Louis Berger Group, Inc., LBA, P.C. has access to the entire Berger family of professional engineers, as well as technical and support staff.

The LBA, P.C. Team is ideally suited to provide the referenced services, based on our current and past work with the Authority. Our background and proven abilities give us an unsurpassed ability to understand and fulfill the Authority's needs. We are also dedicated to fulfilling the M/WBE requirements and, to that end, we have collaborated with Stellar Services and Team Support Services, Inc. to meet the Authority's subcontracting participation goals. Teaming details may be found in Section G of this Technical Proposal.

We look forward to the opportunity to work with the Authority on this Call-In contract. We hope that, upon your review, you will agree that our proposal represents the utmost in quality, experience, responsiveness and effectiveness. Should you have any questions or need additional information, please do not hesitate to contact our proposed Project Manager, Mr. Charles "Chuck" King, P.E. via e-mail at cfking@louisberger.com, or by telephone at (212) 612-7976.

Sincerely,
LOUIS BERGER & ASSOC., P.C.

Thomas Lewis, P.E., JD
Director/Secretary

October 13, 2010

SUBJECT: REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014 (RFP #22388 – ADDENDUM #1)

Dear Sir or Madam:

The Port Authority of New York & New Jersey hereby amends the subject Request for Proposal (RFP) letter, dated September 30, 2010, as follows:

The following questions were received from an RFP recipient(s). The Authority provided the corresponding answers:

1. Please clarify what is required for III.C.3 "table that provides a summary of project experience for key personnel on this project with respect to number of projects and project costs."

It is anticipated that the table shall provide a summary of the information presented in the resumes including project costs.

2. In light of the fact that this is an on-call proposal to provide Project Management Services, is it necessary to have a license to practice Architecture or Engineering services in the State of New York and New Jersey?

Yes.

The due date for receipt of proposals remains 2:00 p.m. on October 21, 2010.

If you have any questions, please contact Ms. Tracy Tiernan at ttiernan@panynj.gov.

Sincerely yours,

Tim Volonakis
Manager
Professional, Technical & Advisory Services Division
Procurement Department

PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 20132 AND 2014 (RFP #22388)

TABLE OF CONTENTS

Sections

Cover Letter

A. Attachment B

B. Attachment C

C. Qualifications and Experience of Staff

- *Program/Project Managers*
- *Experience of Other Key Staff*
- *Experience Related to Number of Projects and Cost of Projects*

D. Specific Relevant Experience of the Firm

E. Management Approach

F. Salary Rates

- *Names, Titles, Hourly Rates*
- *Multiplier*
- *Policy for Compensation*

G. M/WBE Participation

H. Listing of Firm's Affiliates

I. Conflict of Interest Statement

J. Exceptions to Standard Agreement

Attachment B

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Louis Berger & Assoc., P.C.
(Company)

(Signature) Thomas Lewis, P.E., JD

Dirrector/Secretary
(Title)

October 20, 2010
(Date)

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DO NOT RETYPE.

Attachment C

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL PROJECT MANAGEMENT SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011, 2012, 2013 AND 2014 (RFP #22388)

1. Company Name (print or type):
   Louis Berger & Assoc., P.C.

2. Business Address (to receive mail for this RFP):
   199 Water Street, 23rd Floor, New York, New York 10038

3. Business Telephone Number: 212-612-7900

4. Business Fax Number: 212-363-4341

5. Firm website: www.louisberger.com

6. Federal Employer Identification Number (EIN): [redacted]

7. Date (MM/DD/YYYY) Firm was Established: 05 / 02 / 1989 (New Jersey)

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):
   See Attached List of Affiliates

9. Officer or Principal of Firm and Title:
   Thomas Lewis, P.E., JD

10. Name, telephone number, and email address of contact for questions:
    Charles (Chuck) King, P.E., Project Manager (212) 612-7976
    cfking@louisberger.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

LISTING OF AFFILIATES

Louis Berger & Assoc., P.C. (a PA Co.),
320 Eagleview Blvd., Suite 250
Exton, PA 19341
EIN#: [redacted]

Berger Group West, P.C.
412 Mt. Kemble Avenue
Morristown, NJ 07962
EIN#: [redacted]

Qualifications and Experience of Staff

Qualifications and Experience of Staff

We are pleased to offer the PANYNJ a comprehensive staffing solution for this "as needed" program management contract. Our key staff are immediately available to serve on the project.

Firm Commitment and Staff Availability

The LBA, P.C. Team is committed to delivering the resources indicated in our proposal, specifically our proposed staff, for the full duration of the project. We understand that the most important factor in selecting a Project Management consultant is the quality of the proposed personnel; therefore, if selected by PANYNJ, as the LBA, P.C. Team's quality assurance policies require, we will deliver the personnel required for each assignment. We know that if the right staff is not delivered, your confidence in the LBA, P.C. Team may decrease, therefore, we have carefully selected our staff not only on the basis of their technical capabilities, but also their projected availability based upon the types of assignments for which they are most likely to be required.

Program Manager - Charles "Chuck" King, P.E.

The leader of our management team, Mr. Chuck King, P.E., is well known to the PANYNJ from over 20 of services on various PANYNJ projects, including presently serving as Program Manager for the George Washington Bridge Bus Station Redevelopment for TB&T. In addition, he also served as the Project Manager for the Assessment of the Project Management Office for the Chief Operating Officer.

Mr. King also served as **Deputy Program Manager for the Reconstruction of the World Trade Center, Phase 2.** His responsibilities included preparing Project Status Reports and Financial Reports. These reports provide information on budget vs. estimate at completion and actual expenses. He also managed the weekly progress reports and the web based project portal and he managed the FTA reporting process during Governor Patterson's Reassessment in Summer 2008.

In Philadelphia for SEPTA Mr. King served as the **Deputy Program Manager – Construction for the Reconstruction of the Market Street Elevated Transit Line**. This $650M, 5 year project included demolishing and rebuilding this two track elevated during tightly controlled outages. He served as **Project Manager for the Enhanced 911 Center in Metro Tech Center**, where he delivered both the design and construction services to the NYPD. He also served as the **Project Manager for the Amtrak/Long Island Railroad Central Control Center**. This facility housed all the switching and tracking systems for the Penn Station Train tracks, including those assigned to Amtrak, Long Island Railroad and New Jersey Transit.

Project Management Information System Manager (Project Controls) – Paul DeMeo, P.E.

Directing our Project Control Team will be Paul DeMeo, P.E. Mr. DeMeo has served the PANYNJ for over 20 years as a Program Manager. At Newark Airport, Mr. DeMeo served as a **Program**

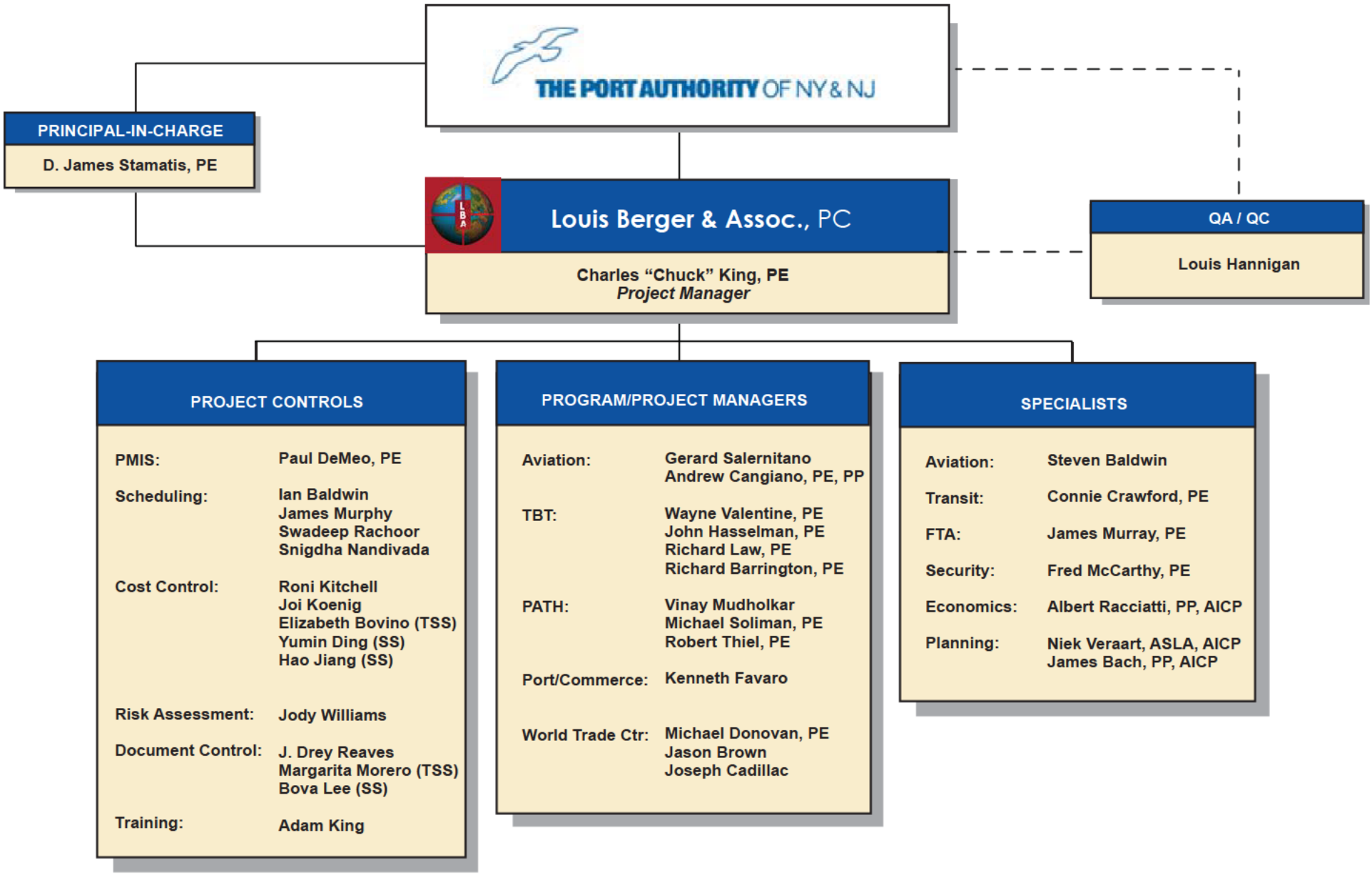
Manager on five separate programs, including International Arrivals Facility, Monorail, Landside Access, Monorail/Northeast Corridor Connection Program and Redevelopment associated with the Global Gateway Program at Terminal C. For these programs, Mr. DeMeo was instrumental in setting up project control systems that linked to PA accounting systems and provided tools for budgeting, forecasting, CPM scheduling, earned value analysis, problem resolution, document control, database and Web portal management and project status reports, weekly, monthly and annually.

Mr. DeMeo served as the **Program and Project Control Manager for the Initial Phase of the Downtown Restoration Program**. This program restored PATH service to Lower Manhattan through the design and construction of three projects; Expansion of Exchange Place Station, Restoration of Hudson River Tunnels and the new temporary Terminal at the WTC site. He was responsible for executive reporting, cost and schedule analysis, Website development, document control and coordination among stakeholders.

The balance of our staff is shown in the Project Organization Chart, where we have listed our Project Control Staff and our Project Management staff available for PANYNJ assignments.

Louis Berger & Assoc PC

Performance of Expert Professional Project Management Services as Requested on a "Call-In" Basis During 2011, 2012, 2013 and 2014 (RFP #22388)



Sub-consultants: *Stellar Services (SS); Team Support Services, Inc. (TSS)*

Program/Project Manager Experience

Employee	Number of Projects	Total Project Cost	Representative Projects	Dates	Project Cost
			Aviation		
Gerard Salernitano	22	*$305M*	Project Manager PANYNJ – NJ Airports (extension to staff)	2008 to current	Greater than $100 M
			Project Manager PANYNJ – EWR Terminal Modernization & Expansion Program(extension to staff)	2007 - 2008	$18.9 M
			Project Manager PANYNJ – Engineering on-call Design	2003-2007	$75 M
			Project Manager Philadelphia Schools – Athletic Fields Improvements	2005-2007	$110M
Andrew Cangiano, P.E., PP	4	*$33.7M*	Project Mgr - Security Improvements Phase I, II & III and Water/Sewer Project Orange County Airport, NY	2010	$2.1M
			Project Mgr-EWR Terminal A Expansion/Modernization Program, infrastructure & Utilities	2009	$18.9M
			Tunnels, Bridges and Terminals		
Chuck King, P.E.	10	$3.0B	Program Mgr - GWB Bus Station Redevelopment	2010	$49.5M
			Dpty Prog Mgr – World Trade Ctr Redevelopment	2008-2009	$2.2B
			Project Engineer – I84/I87 Interchange Reconstruction	2006-2008	$80M
			Dpty Prog Mgr – Market Street Reconstruction - SEPTA	2004-2006	$650M

Program/Project Manager Experience – cont'd

Wayne Valentine, P.E.	8	$500M	Project Manager - Red Bull Stadium	2008-2010	$160M
			USPO Facility Improvements – NYC Metropolitan Area	2005-2007	$100M
PATH (Rail)					
Vinay Mudholkar	3	$15.15B	Technical Manager NS Railway Saudi Arabia Director, Amtrak Principal Engineer Bechtel UK West Coast Main Line	2006-2010 2004-2006 2000-2004	$ 5 Billion $150 million $10 Billion
Port/Commerce					
Kenneth Favaro	8	$17.4M	BMT Piers 7,8 and 9B-Pile Jacket Repairs, Steel Waler Replacement and Steel Bulkhead Plates	2010	$2.3M
			BMT – Steel Bulkhead and Tie-Rod Replacement Between Piers 7 and 8	2009	$2.8M
			BMT – Piers 7 and 11 – Rehabilitation of Warehouses for Phoenix Beverages (w/ Cogen Plant)	2008	$10.5M
			TAA Project for American Stevedoring (at Piers 8 and 10)	2009	$800K
World Trade Center					
Michael Donovan, P.E.	1	$2.2B	World Trade Center Redevelopment for PANYNJ	2009-2010	$2.2B
Joseph Cadillac	2	$3.2B	World Trade Center Redevelopment for PANYNJ	2006-2010	$2.2B
			Hudson Bergen Light Rail Extension	2000-2005	$1.0B

CHARLES (CHUCK) KING, P.E.
Project Manager

EDUCATION
M.S., Civil Engineering, University of Oklahoma, 1983
B.F.A., University of Oklahoma, 1975

PROFESSIONAL REGISTRATIONS
Professional Engineer – NJ, NY, CT, PA, MD
Structural Engineer – IL

PROFESSIONAL AFFILIATIONS
American Society of Civil Engineers
American Institute of Steel Construction
Project Management Institute
Construction Management Association of America

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- March 2008 – Present
Jacobs Engineering, Group – 2002-2008
Weidlinger Associates, Inc. - 1994-2002
Raytheon Engineers and Constructors (formerly Ebasco Services, Inc.) – 1992-1994
Sverdrup Corporation – 1988-1992
Blackburn Engineering – 1987-1988
Mico Engineering Division of Michelmann Steel Construction Company – 1985-1987
Sargent & Lundy Engineers – 1983-1985
Markeudaley Engineers – 1981-1983
Sullivan Engineering – 1979-1981

YEARS EXPERIENCE: 30

PROFESSIONAL EXPERIENCE
As a Program / Construction Management Executive with nearly thirty years experience, Mr. King has served in a number of increasingly responsible positions on several complex transportation and facilities projects. His management experience on design / construction programs includes strategic planning, cost analysis and budgeting, stakeholder relations, schedule and scoping analysis, contracts and public relations. His construction management experience ranges from "on site" management including inspection and field engineering to document control, change order processing, claims mitigation and quality assurance / control. These management skills coupled with his Professional Engineering background in both design and construction permit him to immediately understand issues on large complex projects and manage the resolution of cost, schedule, quality, and safety issues. In addition to strategic planning skills, Mr. King is an effective communicator and organizational manager. His skills include: leadership, technical competency, personnel management, organizational management, and profit / loss accountability. Tactical leadership skills include the ability to defuse difficult situations, resolve conflicts evolving from

contractual interpretations and to negotiate equitable resolutions between business, engineering and construction parties. Relevant project experience includes the following:

- **Port Authority of New York and New Jersey, Program Management PATH.** *Principal* responsible for the overall management of contract to provide Program Management Services for the PATH Capital Improvement Program, 2010-2014. Services include the planning for the design and construction program to be implemented over the PATH system. The projects being coordinated in the five year period include the Security Improvements, Signal/Communications System replacement, Vehicle replacement and upgrade, infrastructure and station improvements and new World Trade Center PATH station. Design and construction management personnel are being provided.

- **Port Authority of New York and New Jersey, Program Management Services for the George Washington Bridge Bus Station Redevelopment.** *Program Manager* responsible for the provision of design management, document control, scheduling and contract administration for the public/private partnership with Development Ventures, a retail developer. The developer is managing the design and construction of the combined Bus Station and Retail mall being planned for the PANYNJ owned Bus Station on 178th St, Manhattan, the NY approach to the George Washington Bridge. The $150M development will provide new retail services for the "Heights" and improve the bus operations and passenger access for the PANYNJ operated Station. Design of the PANYNJ "Reserved Spaces" is following a Design Criteria and must be approved by PANYNJ Engineering and Tunnels, Bridges and Terminals Departments before the Lease is executed. Upon execution, the Developer is entitled to proceed with the construction of Leased spaces.

- **Port Authority of New York and New Jersey (PANYNJ), Project Management Office Assessment, New York, NY.** *Project Manager.* Interviewed PANYNJ Executive Management and Project Management staff, analyzed business processes by comparing them to other agencies such as MTA CC, NJDOT, DASNY and NYC SCA, quantified project management and project controls staff to capital spending for the four Line Departments (Aviation, PATH, Port Commerce and Tunnels, Bridges and Terminals), investigated the PM's role in the PANYNJ's restructured PM organization, developed recommendations for increasing the effectiveness of the central Project Management Office per principles of the Project Management Institute.

  Port Authority of New York and New Jersey (PANYNJ), World Trade Center Site Redevelopment Program (Downtown Restoration Program), New York, NY. *Deputy Consulting Program Manager* responsible for the supervision of the program management team supporting the Port Authority of NY and NJ for the reconstruction of the World Trade Center in Lower Manhattan. This $16 billion program for reconstruction of the WTC site includes a new Transportation Hub designed by world-renowned architect, Santiago Calatrava, the 1776 feet tall Freedom Tower, the 9/11 National Memorial, Towers 2, 3, and 4, Vehicle Security Center, Rte. 9A realignment, a Central Chiller Plant, and the extensive Site Roadways and Utilities. Mr. King assisted the PA Director in managing the program including budgets, forecasts and cost variance analysis, project status reports, financial analysis and invoice processing, monthly financial and progress reports, program CPM scheduling (deterministic and probabilistic), site logistics, project communications, document control, contract management and serving as a liaison with the FTA and other stakeholders.

Louis Berger & Assoc PC

D. JAMES STAMATIS, P.E.
Principal-in-Charge

EDUCATION
M.S. Civil Engineering, Penn State
B.S. Civil Engineering, Penn State 1985

PROFESSIONAL REGISTRATIONS
Professional Engineer – NJ and NY

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- May 1985 – Present

YEARS EXPERIENCE: 25

PROFESSIONAL EXPERIENCE
Mr. Stamatis is President of LBA, P.C. responsible for directing transportation engineering programs, including water resources and hazardous waste programs. Mr. Stamatis has been Principal-in-Charge on several efforts with the Port Authority of New York & New Jersey, Metropolitan Transportation Authority agencies, and other state and local transportation agencies. In this capacity, Mr. Stamatis reviews project staffing, methods, deliverables and plan submissions for contract compliance. His technical experience includes projects involving engineering studies, design and construction support services for government agencies, industrial and commercial clients. Relevant projects include:

- **Port Authority of New York and New Jersey, Professional Design and Technical Services for Security Capital Programs on a "Call-In" Basis.** Principal-in-Charge responsible for providing various confidential security related design services for various tunnel, bridge, airport, rail, and port facilities projects in NY and NJ. Under this contract, presently preparing Stage I reports and design documents for construction and installation of crash barriers, perimeter intruder detection systems, structural hardening of access points, Infographics systems, ventilations systems safeguards and landside improvements.
- **Port Authority of New York and New Jersey, On-Call Civil Engineering Services.** *Principal-in-Charge* responsible for QA/QC of civil engineering services involving roadway, drainage and pavement design at JFK, Newark and LaGuardia Airports. In responsible charge of engineers and in the performance of engineering assessments and development of design plans, specifications and cost estimates. Representative projects included JFK Airport Service Road and Taxiway Rehabilitation, LaGuardia Airport Service Road Restoration, Oil/Water Separator Installations at Buildings 14, 75 and 79 at Newark International Airport, JFK Cargo Road Rehabilitation and Guard Post Crash Barriers at JFK.
- **Port Authority of New York and New Jersey, JFK Airport, Aviation, Environmental & Facility Engineering On-Call Services.** *Project Engineer* (Environmental) on comprehensive building conditions assessment program (including environmental and indoor air quality aspects) for over ten (10) Authority-owned airport buildings.
- **Port Authority of New York and New Jersey, Facilities Condition Surveys, JFK International Airport.** *Principal-in-Charge*. Conducted comprehensive facilities conditions surveys for 12 buildings totaling over 1.3 million sq. ft. Items included structural, mechanical, architectural, civil, electrical and environmental. Provided these services under an extremely tight fast track schedule to meet the Port Authority's end-of-lease requirements.

- **Port Authority of New York and New Jersey, On Call Maintenance Engineering Services.** *Principal-in-Charge*. Provided engineering services to the Port Authority for the past three years for maintenance, rehabilitation and reconstruction projects at Newark, LaGuardia and JFK International Airports. Projects have ranged from parking lot resurfacing and roadway drainage improvements to facility upgrades for wash racks and oil/water separators.
- **New York City Transit Environmental Services On-Call Contract.** *Principal-in-Charge*. Responsible for oversight of all environmental engineering projects, including abatement management, environmental site assessments (Phase I/II) including asbestos containing materials inspections, remedial investigations and sampling, remedial alternative assessments and conceptual designs (Phase II), groundwater monitoring programs, and compliance and permitting assignments for properties and right-of-ways impacted by contamination. Experience with NYACT includes over 40 assignments to date covering all five boroughs of NYC, and has specifically included management and staffing of rapid-response and 24 hour/7 day a week abatement management projects.
- **New Jersey Transit General Environmental Consultant Contract.** *Principal-in-Charge*. Under ten (10) different work orders to-date, managed services associated with feasibility studies/constraints analyses (including costing), site investigations, compliance and permitting support, noise and archaeological services, and asbestos/lead paint abatement support.
- **Delaware River Joint Toll Bridge Commission, Civil/Structural Task Order.** *Principal-in-Charge* for providing professional engineering services for various general civil/structural engineering projects within the Commission's jurisdiction. Tasks include sitework, surveying, foundations, highways, lighting, integrity inspections, structural repairs, substructure repairs/evaluation, steel painting/containment and disposal, toll plaza design, geotechnical engineering, traffic engineering, contract plans/specifications, estimates/schedules and environmental permits. Initial tasks have included Toll Plaza Impact Attenuators Improvements which included the study and design for the installation of attenuators and related toll plaza safety improvements at the I-78 Toll Bridge, Milford-Montague Bridge, I-80 Delaware Water Gap Bridge and the Portland-Columbia Toll Bridge, a systemwide substructure inspection and evaluation of all river piers in accordance with National Bridge Inspection Standards (NBIS), including structural and underwater inspectors and the preparation of a NJ Department of Environmental Protection Annual Report for stormwater management regulation compliance.
- **Compliance Audits Under Environmental Services IQC, USPS, NY.** *Principal-in-Charge* for compliance audits and reviews at major postal facilities throughout NY State. Compliance work covered lead/asbestos, energy/water/air conservation, air quality, stormwater management, USTs/ASTs, PCBs, waste management and pollution prevention, spill prevention, and worker health and safety.
- **IDC for A/E Services, Primarily for Picatinny Arsenal, USACE, New York District.** *Principal-in-Charge*. Providing A/E services under a multi-year, indefinite quantity contract for facilities, infrastructure and utility improvements projects, including hazardous waste abatement.
- **IDC No. 15, USACE, New York District.** *Principal-in-Charge*. Providing A/E services under a multi-year, indefinite quantity contract for facilities, infrastructure and utility improvements projects, including environmental abatement for Fort Hamilton, Brooklyn, New York. Also provided A/E services as part of Ramapo River (Upper Passaic Basin) Flood Control project.

Louis Berger & Assoc PC

LOUIS HANNIGAN, CQE

Quality Assurance/Quality Control

EDUCATION

M.B.A, University of Chicago
B.S., Nautical Science, California State University
Construction Project Management Certificate Program, NYU School of Professional Continuing Studies, Expected Completion May 2011

PROFESSIONAL AFFILIATIONS/ TRAINING/ CERTIFICATIONS

Certified Quality Engineer/Quality Manager/Six Sigma Green Belt
Registrar Accreditation Board Quality Systems Lead Auditor

YEARS OF EXPERIENCE: 37

EMPLOYMENT HISTORY:

The Louis Berger Group, Inc. – January 2008 – Present
Church & Dwight Company, Inc. December 2002 to December 2007
The Pleiades Company, Inc./Raytheon Service Company – January 1995 to December 2002.
Military Logistics/Transportation industry July 1973 to January 1995

PROFESSIONAL EXPERIENCE

Mr. Hannigan has substantial experience and education in Quality, Operations, and Management. Mr. Hannigan has an MBA from the University of Chicago. He is a Certified Quality Systems Lead Auditor, Quality Engineer, Quality Manager, and Six Sigma Green Belt. Relevant experience includes:

- **Downtown Restoration Program, New York, NY.** *Quality Assurance Specialist.* In this capacity, Mr. Hannigan serves as a Quality Assurance Specialist for the Port Authority of New York & New Jersey (PANYNJ)'s World Trade Center (WTC) Transportation Hub Project within the Downtown Restoration Program. He assists in the implementation of the program's quality system in accordance with the Federal Transit Administration's (FTA) quality assurance guidelines. Mr. Hannigan also audits the quality program and the safety program for the internal departments and subcontractors against the FTA, OSHA, and the contractual requirements.

  The Transportation Hub proposes to establish the PATH terminal as the focal point of an intermodal transportation hub at the World Trade Center site, which would connect several major destinations along a single axis, including PATH, New York City subways, and existing and planned future surrounding developments. The subway lines in Lower Manhattan run in a north-south fashion, but there are few opportunities to interconnect these lines in an east-west direction. There is a clear need to "connect the dots" and link these various lines in Lower Manhattan with an east-west spine, an underground concourse that would facilitate intermodal transit connections. The concept would be for a Transportation Hub -- a major public space aligned underneath Dey Street, anchored by the World Financial Center Winter Garden to the west and an MTA subway "Transit Center" to the east. This Fulton Street Transit Center would be developed to address linkages between the J/M/Z, A/C and 4/5 transit lines located below the Broadway, Nassau, Fulton Street confluence. The Transportation Hub would provide a 3,000-

foot long enclosed public space and thoroughfare between these two anchors that could feature moving walkways to facilitate pedestrian circulation, as well as adjacent retail development.

- **Church & Dwight Company, Inc.** *Quality Engineer*. This company's products include medical devices, drugs and cosmetics. Created the corporate supplier auditing program. Audit the seven hundred plus suppliers, contract manufactures, and service providers against various standards, including ISO 9001:2000 and 21 CFR 820 (Medical Device). Managed the transformation of the Special Products Division to ISO 9001:2000 Quality System Standard. Manage the internal audit program for this division. Coordinate and facilitate the resolution of quality problems throughout the corporation. Coordinate the relationship of the manufacturing plants within the ISO 9001 Quality System.
- **The Pleiades Company, Inc./Raytheon Service Company.** *Quality Management Consultant.* Implemented ISO 9001 Quality Management Systems and obtained certifications for clients. Educated and trained hundreds of students in the principles and applications of quality. Conducted more than five hundred second party audits and third party assessments within a diverse range of industries. Served as a subcontracted auditor for a major quality systems registrar. Approved by the General Services Administration as MOBIS (Management Organizational Business Improvement Service) provider.
- **Military Logistics/Transportation industry.** *Commander, USNR; USCG licensed Master Mariner.* Positions of increasing responsibility from U.S. Merchant Marine deck officer on oil tankers to Commander, USNR.

Louis Berger & Assoc PC

PAUL DeMEO, P.E.
PMIS

EDUCATION
B.S.. Civil Engineering, Notre Dame University, 1967
B.A., Notra Dame University, 1966

LICENCES/CERTIFICATIONS
Professional Engineer: PA

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - June 1988 – Present
K&H Management Systems – 1983 -1988
Gilbert/Commonwealth, Inc. – 1970 - 1982

YEARS EXPERIENCE: 43

PROFESSIONAL EXPERIENCE
Mr. Paul DeMeo is the Senior Vice President for Management Systems possesses over 40 years of experience in Program Management, Construction Management, Civil Engineering, and Project Control System development. He is currently supporting a wide range of projects, performing management analyses, configuring and implementing systems, supporting project control assignments, and staffing new programs.

- **Downtown Restoration Program, Phase II.** *PANYNJ.* Served as Senior Program Manager on the FTA funded $3+ Billion World Trade Center (WTC) PATH Terminal Project, the $478 Million WTC Security Center and Tour Bus Facility Project, and WTC Site Planning and Development. Responsibilities included coordination with over $11 Billion in Lower Manhattan projects, including One World Trade Center, the WTC Memorial, the Fulton Street Transit Center, the West Street Development and other transportation infrastructure projects.
- **Downtown Restoration Program, Phase I.** *PANYNJ.* Served as Program Manager for the $544 Million Downtown Restoration Program consisting of three projects: the expansion of Exchange Place Station (tunneling, new switches and extended platforms); the restoration of the tunnels under the Hudson River connecting Exchange Place with New York; and the construction of a new terminal at the site of the former World Trade Center. Responsible for executive reporting, analysis of cost and schedule variances, public relations (including website development, presentations and computer animation), and coordination among the various stakeholders. Mr. DeMeo was recognized with the James G. Hellmuth citation for meritorious service for his participation in this latter role.
- **Newark International Airport Redevelopment Program, Phase II.** *PANYNJ.* Served as Senior Program Manager responsible for overseeing the $780M Redevelopment Program at Newark International Airport, which included new parking structures, an expanded roadway system, a new administration / ARFF facility, improved taxiways, and RON aircraft parking. Involved with initial planning, scope definition, model design, budgeting, scheduling and public relations. Responsible for coordinating Client activities with the Continental Global Gateway Program, which involved extensive development of Terminal C.

- **Newark International Airport Monorail/Northeast Corridor Connection (NEC) Program.** *PANYNJ.* Served as Program Manager for this $415M program, which extended the on-airport Monorail system approximately one mile to a new NEC Station. The station is composed of three major elements: two 32 feet wide and 1050 feet long NEC platforms, a 350' connecting Concourse and the Monorail Station. The program required increasing the number of electrified tracks along the corridor, in the area of the station, from four to a total of six. Reported to the Client Program Director and was responsible for overall coordination among design, management staff and construction contractors. Provided Program Management Services including: the establishment of the project's work breakdown and charge code structures; project authorization; project and annual budgeting; CPM scheduling; earned value analysis; actual expenditure and accruals monitoring and audit; cost forecasting and problem resolution analysis; document control; local area network administration; database application development; management presentation preparation; public relations; and weekly, monthly and annual status report preparation.
- **Newark International Airport Landside Access Project.** *PANYNJ.* Served as Program Manager responsible for managing the $100M Landside Access Project that involved airport approach and circulation roadways as well as bridges and ramps. Initial responsibilities included project definition, phasing and authorization. Program Management responsibilities included annual and project budgeting, coordination of design and construction, summary scheduling, cost forecasting, earned value analysis, progress reporting, and problem definition and resolution.
- **Newark International Airport Monorail.** *PANYNJ.* Served as Program Manager responsible for the $378M Monorail system which connects parking areas with the passenger terminals. Wrote a Program Management Manual defining organizational and communication standards, program policy and procedures, as well as reports and forms used by the staff. Prepared both program and executive level status reports; chaired monthly status meetings. Designed and deployed a Document Control System featuring document scanning and optical disk storage. Established a 100-user "campus" area computer network linking the Program office with field trailer operations.
- **Newark International Airport – International Arrivals Facility.** Served as Project Manager responsible for managing the $120M three-story structure that was constructed on the airside of Terminal B. The building was constructed adjacent to active apron areas; a service roadway and several baggage cart ramps ran through the site. Wrote the Project Authorization, participated in value engineering and partnering activities, coordinated design and construction activities, produced project cost and schedule reports, and developed a fire safety operations manual and airside security procedures.
- **Qatar Project Management (QPM).** *Qatar Project Management.* Served as Management Systems Advisor. QPM is a newly established enterprise formed to provide management services to Barwa and Qatari Diar – both major real estate investment companies. Implemented a full range of project controls, including a SharePoint based executive reporting systems with internet access from all project sites. Also provided management staff, associated training and procedures.
- **Masdar Headquarters.** *Abu Dhabi Future Energy Company.* Served as Management Systems Advisor for the Masdar Headquarters project in Abu Dhabi, United Arab Emirates. Commissioned by the government of Abu Dhabi to manage the design and construction of the one million square foot, mixed-use, "positive energy" Masdar Headquarters building.

Louis Berger & Assoc PC

JIM MURPHY
Scheduler

EDUCATION
M.B.A., Construction Management and Real Estate Finance, Columbia University, New York, NY
B.S., Engineering and Computer Science, United States Military Academy at West Point, NY

PUBLICATIONS
Co-author, *The Effect of Resource Constraints on Project Schedules*, presented to the American Association of Cost Engineers.
Co-author, *New Ideas in Overhead Recovery*, presented to the American Association of Cost Engineers.

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- Sept 2009 – Present

YEARS EXPERIENCE: 16

PROFESSIONAL EXPERIENCE
He has over 16 years of experience in dispute resolution, project management and controls, which, when coupled with his education in construction management, engineering, and finance, allows him to service a broad range of client needs.

- **The Louis Berger Group, Inc.** – *Integrated Master Schedule Manager.* Serving as Integrated Master Schedule Manager on the World Trade Center Redevelopment Program, having responsibility for:
  - Developing the program's Integrated Master Schedule (overall program construction schedule) using P3 / P6 (recently released web-based system)
  - Conceptual Planning and Logistics Analysis
  - Earned value analysis
  - Value planning construction activities and identifying best practices for sequencing and logistics
  - 3D modeling and 4D scheduling / visualization support
  - Revising the progression of planned construction to advance schedule, minimize impacts and interferences, enhance cost savings
- **Newark Airport Terminal C Modernization - Newark, NJ. Program Controls Manager** on this $1 billion program to expand and improve Continental Airlines' facilities at Newark. The project was designed and built under a fast-track process under operating conditions, requiring significant phasing and staging operations, and numerous construction change orders. Responsibilities included management of a staff of eight, including estimating, scheduling, contract administration, and cost & document controls. Additional responsibilities included significant involvement in change order review process as well as claims evaluation.
- **Greyhawk - New York, NY. Managing Consultant.** Performed dispute resolution, construction management, estimating, scheduling, and other project controls needs.

Brooklyn Courthouse and General Post Office – Brooklyn, NY. Claims Manager and Scheduler. Four years into the construction of this project, the contractor went bankrupt. Called in to evaluate construction claims, currently totaling almost $100 million, and to facilitate the schedule review and monitoring of the surety's replacement contractor's schedule. The project is nearing a successful completion, with the claim review complete and ADR still pending. **URS Construction Services, Inc. - New York, NY. World Trade Center Reconstruction and PATH Transportation Hub – New York, NY. Master Scheduler** for this $10 Billion program to reconstruct the World Trade Center. As part of the PB-URS Joint Venture team, served as an extension of staff to the Port Authority of New York and New Jersey in facilitating the phasing and staging of the program. Also coordinated PB/URS' efforts to provide reports for FTA oversight, including the conduct of earned value reviews. Conducted schedule reviews, as well as manpower, security, and feasibility studies in support of the Site Integration Team. **Jersey City Schools Program - Jersey City, NJ. Deputy Program Manager** on this $1.1 billion program to construct 30 new schools and perform renovations and additions to 31 existing schools throughout the Jersey City Public School District. Managed a staff of 10 performing all program controls functions, including scheduling, cost management, and document controls. Successfully implemented web-based Prolog project management software as pilot project prior to company-wide implementation.

- **Construction Disputes Group - San Francisco, CA.** Managed dispute avoidance, mitigation, and resolution assignments on behalf of all parties to the construction process. Assignments have included assisting clients with document discovery; formulation of written discovery and deposition support; claim preparation, review and analysis; rendering expert testimony in deposition and mediation; formulation of written testimony and trial graphics; and trial and post-trial support.
- **Luster Construction Management, Project Controls Group - San Francisco, CA.** As **Project Controls Engineer**, produced initial and updated schedules for major construction projects utilizing Primavera project control software. Responsible for cost engineering, resource loading, production of as-built schedules, and schedule development. Served as in-house Primavera technical support to junior schedulers. Major projects included the San Francisco New Courts Building and the Bay Area Rapid Transit, Colma Parking Structure and Bridges.

Vollmer Associates - Engineers, Landscape Architects, Planners, New York, NY. As **Traffic Engineer,** conducted highway capacity analysis for proposed and existing roadways and development projects. Assisted in the production of environmental impact statements and project proposals. Projected future traffic patterns and demand. Projects included: Mount Sinai Hospital Expansion; National Tennis Center Expansion, Hoboken Shipyard, Van Wyck Expressway Traffic System Management; Route 9A Reconstruction; Triborough Bridge and Tunnel Authority EZ Pass Evaluation, and Rockaway Peninsula Bridges Studies.

United States Army, Fort Ord, CA. Commissioned Officer – Captain. Second in command of a 208-man service battery. Directly supervised 70 and responsible for all unit training, deployment, and systems management functions. Scheduled maintenance of $14 million in equipment and managed $2.1 million ammunition budget. Forecasted, procured, and coordinated delivery of ammunition for a cannon battalion. Led an 11-man fire support team into combat for Operation Just Cause in Panama. Team conducted security patrols, weapons collections and seizures, and foreign embassy guard.

Louis Berger & Assoc PC

IAN P. BALDWIN
Scheduler

EDUCATION
B.S., Construction Management, Pratt Institute, New York, NY
Certificates, AutoCAD Design, New York University, New York, NY

TECHNOLOGY SKILLS
AutoCAD, Primavera Project Planner, SureTrak Project Manager, Prolog Manager, CorelDraw, MS Excel, Project & PowerPoint.

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- 2008 – Present
Bovis Lead Lead – 2005 - 2008
Turner Construction – 1999 – 2005
HRH Construction – 1997 – 1998
Structure Tone, Inc. – 1991 – 1997
Tishman Construction – 1977 - 1991

YEARS EXPERIENCE: 30

PROFESSIONAL EXPERIENCE
Mr. Baldwin has an impressive 30-year career highlighted by exceptional growth and outstanding performance with a positive "can-do" attitude. A results-driven manager with consistent track record demonstrating self-motivation, creativity and initiative to exceed or achieve personal and corporate goals. An integral member of a cohesive management team, contributing broad-based perspective to achieve outstanding results. Remains on the cutting edge of technology; experienced in conducting presentations and training seminars utilizing computerized visual aids. Demonstrates broad-based strengths and accomplishments in:

- ✓ Change Management
- ✓ Custom Programming
- ✓ Cast Flow Projection
- ✓ Time Impact Analysis
- ✓ Risk Management
- ✓ Development Training
- ✓ Presentation Graphics
- ✓ Claims Analysis
- ✓ Site Safety/Logistics

- **Port Authority of New York & New Jersey (PANYNJ) Technical Center, Jersey City, NJ.** *Senior Scheduler.* Responsibilities include the development and maintenance of CPM schedules for several PANYNJ, as well as the review and approval of all contractor schedules. Currently assigned to the George Washington Bridge Palisades Interstate Parkway to Lower Level Connector Ramp, a $50M improvement project.

- **High-Rise Residential Projects.** *Senior Scheduler.* Responsible for developing and maintaining CPM schedules for several high-rise residential projects in the Miami area. Responsibilities included the development and implementation of schedule comparisons and narratives, as well as Time Impact Analysis and Delay Claims Analysis. Performed on-site status updates and conducted schedule meetings with entire field staff to ensure the on-time completion of all projects.

- **Various Projects.** *Senior Scheduling Engineer*. Responsible for creating and maintaining CPM schedules, time impact analysis and monthly progress reports as well as analyzing delay claims. Hired and trained junior schedulers for project assignments, in-house scheduling, and technical support. Coordinated all scheduling meetings with field staff to ensure all projects were completed on time and as per contract documents.

  Accomplishments:
  - ✓ Implemented company-wide tracking and reporting system to enable executive management to assess productivity and project progress, simultaneously anticipating and averting project delays and claims. Monitor accuracy and diligence of scheduled maintenance through on-site visits to job sites.
  - ✓ Assessed needs and developed company-wide training seminars on CPM scheduling and software integration; designed and created detailed training manuals and PowerPoint presentations.

- **Various Projects.** *Assistant Project Manager / Scheduling Engineer*. Responsible for all project planning and scheduling as well as site safety and logistics utilizing a variety of scheduling and computer graphics software. Tracked and maintained change management and budget revision system as well as assisted in the contractor payment review, negotiation and approval process.

  Accomplishments:
  - ✓ Created custom designed cost and data entry and tracking templates using Lotus 1-2-3, macro-programming language; generated CAD graphics for site safety and logistics planning as well as stacking plans.
  - ✓ Successfully fostered collaboration between project management and sales personnel to create outstanding presentation materials instrumental in acquiring several major projects.

- **Various Projects.** *Assistant Project Manager / Scheduler*. Produced CPM logic generated schedules for new as well as periodical updating of ongoing projects using Primavera software. Created custom designed change management and scheduling program using spreadsheet application utilized by both office staff and project managers in the field. Created computer graphics and CADD drawings for site safety and logistics planning.

- **St. Regis Hotel, New York, NY.** *Assistant Project Manager*. Created and implemented change order / purchase order tracking system. Tracked and managed project shop drawings, submittals, material delivery and request for information logs.

- **U.S. Trust Headquarters, New York, NY.** Performed management responsibilities for 36-story interior construction and base building upgrade of newly constructed building at 114 West 47th Street. Coordinated activities of all contractors and field management staff; tracked performance and approved subcontractor payments and change orders. Reviewed and approved contractor payment requisitions and change orders.

- **Barclays Bank Plaza, New York, NY.** Provided overall management responsibilities for demolition of 14-story building and construction of new three-level public plaza.

SWADEEP C. RACHOOR
Project Control Specialist

EDUCATION:
M.S., Construction Management, Stevens Institute of Technology, 2007
B.S., Architecture, CSIIT, Jawaharlal Nehru Technological University, 2005

PROFESSIONAL AFFILIATIONS:
Indian Architect and Builder Association, Associate Member
Indian Institute of Architects, Associate Member

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. – January 2009 – Present
Kel-Tech Construction – June 2008 – January 2009
Aetna Insurance – January 2008 – May 2008
Skanska USA Building, Inc. – May 2007 – December 2007
Design Clique – January 2005 – December 2005
Basics – November 1999 – June 2000

YEARS EXPERIENCE: 5

PROFESSIONAL EXPERIENCE
Mr. Swadeep C. Rachoor is a Project Controls Engineer with over 5 years of experience in the construction industry. He has been involved in scheduling, cost and resource loading, document control, and space planning. In addition, Mr. Rachoor has served as an Assistant Architect as well as a Project Engineer, where he performed various project management functions.

- **Port Authority of New York and New Jersey, Aviation Perimeter Intrusion Detection Systems (PIDS) for Newark Liberty Int'l Airport (EWR), John F. Kennedy Int'l Airport (JFK), LaGuardia (LGA), Teeterboro (TEB)** *Project Controls Specialist.* Performed detailed schedule Analysis on PIDS Integrated Master Schedule (IMS) utilizing P6.1 for issues and inefficiencies in appropriate resource allocations, deadlines, milestones, critical path and made suggestions on adding and removing excess Float. Monitor progress against interim milestone dates and report issues/delays and make suggestions to resolve scheduling delays and conflicts.
- **Port Authority of New York and New Jersey.** *Project Controls Specialist.* Performed Schedule Risk Assessment and Cost Risk Assessment using P6.1, The John F. Kennedy Hangar 12 & Building 94 Demolition and Airport Beacon Light Relocation Project, New York, NY and The George Washington Bridge Structural Steel Rehabilitation & West Bound Repaving Project, New York, NY.
- **Port Authority of New York and New Jersey, Downtown Restoration Program, New York, NY.** P*roject Controls Specialist.* Traced critical paths and prepared summary schedule leading to the 9/11 Milestone on the following projects: Transportation Hub; Freedom Tower; Streets, Parks and Plazas; NS11MM Memorial and Museum; and Vehicle Security Center 1, South Basement. Currently working on the World Trade Center Construction (WTCC) cost and

schedule integration model. Assists in creating Cost Accounts in the P6 database. Enters the Activity Line Items (ALI) into the appropriate Global Activity Code Listing. Assigns the codes to the activities in the Program Controls Model. Assists with the development of the Integrated Cost and Schedule Reporting System. Working to expand the Program Controls Resource Library. Assigns resources to activities in the Program Control Schedule.

- **G&W System Tech Data Facility, Fuze and PHS&T Picatinny Arsenal Support.** *Project Controls Specialist.* Performed detailed resource and cost analysis, Impact of time on the schedule and Critical path analysis using P6.1. Analyzed: the critical path to see how long the project will take to complete and which activities are critical; the activities with invalid relationships appearing in the Scheduling/Leveling Report; the progress and status of the project & forecasted the likely future performance of the project to indicate how much of the budget has been spent, in view of the amount of work done and generated Earned Value reports (EV) from P6.1. Also made suggestions on how to get the schedule back on track.
- **City of New Orleans Disaster Recovery Project, New Orleans, LA.** *Project Controls Specialist*. Reviews existing Document Storage. Structured project into two departments: Public Works Projects and Public Facilities Projects. Produces Document Control flow charts. Develops Document Types. Working on developing individual document libraries for each project. Creates functional flow **char**ts for Document Control SharePoint site. Coordinates with Technical team to develop SharePoint features.
- **Various Projects, Morristown, NJ.** *Project Controls Engineer*. Worked on the proposed schedule for the New Jersey Turnpike Exits 6 to 9 Widening Project, which involved both cost and resource loading. Also developed the proposal schedule for the Susquehanna-Roseland 500 KV Transmission Line Project for Geotechnical Services. Trained in Primavera Contract Manager and P6.1.
- **New York City School Construction Authority (NYCSCA), Brooklyn, NY.** *Project Engineer*. Responsibilities included: generating, forwarding and tracking status of submittals; contacting subcontractors and suppliers for bid solicitations and evaluating lower bids and aiding in pricing alternates; assisting in managing the project; providing necessary coordination and planning for NYCSCA along with the subcontractors; attending and taking notes for project team meetings, including biweekly NYCSCA/ Architect meetings and subcontractor coordination meetings and distributing the meeting minutes to participants. Prepared and submitted daily/monthly project progress reports; prepared and answer RFIs; attended NYCSCA project meetings and updated construction schedule based on project team input; oversaw the set-up of job files. Prepared, updated and monitored logs for tracking submittals, RFIs, change orders, etc., considered necessary for a successful project. Prepared biweekly/monthly schedule in coordination with the Project Manager and Field Supervisor.
- **Various Projects, Middletown, CT.** *Facilities Space Planning and Move Coordinator.* Provided project management support, which involved space planning to assist Aetna with the proper placement of new offices, rooms, systems furniture and employees within established guidelines. Produced drawings for review and feedback and involved project management staff as needed for construction services. Coordinated with employees to ensure that all move-related information was properly reflected on Move Spreadsheets.

Louis Berger & Assoc PC

SNIGDHA NANDIVADA
Scheduler

EDUCATION
M.S., Construction Management, Stevens Institute of Technology, Hoboken, NJ, 2007
Bachelor of Architecture, School of Planning and Architecture, JNT University, India 2005

PROFESSIONAL TRAINING
Primavera Project Planner for Scheduling and MS-Excel for Estimation, Risk Analysis, Timberline Estimating, Document Control, 2007
AutoCAD, ADT and 3D StudioMax, 2005
Adobe Photoshop, Coral Draw, 2004

PROFESSIONAL MEMBERSHIPS
Registered Architect, Council of Architecture-India
Registered Member of Indian Architect and Builder Association
Registered Member of India Institute of Interior Design

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.– January 2008 – Present
Architectural Associates – August 2005 – July 2006

YEARS EXPERIENCE: 5

PROFESSIONAL EXPERIENCE
Ms. Nandivada possesses three years of relevant experience as a Project Controls Specialist. She has experience with conceptual planning and logistics analysis; developing integrated construction schedules and cost control using Primavera tools; performing Earned Value Analysis; and BIM 4d scheduling. Previously, Ms. Nandivada worked as an Architect on various major projects, including commercial complexes, hospitals, hotels, auditoriums, and residential buildings (including row houses, duplex houses and luxury Condos). Ms. Nandivada is skilled in developing and implementing feasibility studies and technical studies to support the design of projects requiring State and Federal permits, and monitoring the success of projects. Relevant projects include:

- **Port Authority of New York & New Jersey, NY.** *Project Controls Manager.* Currently working on a $50 Million George Washington Bridge Bus Station Redevelopment project for Port Authority Tunnels Bridges &Terminals (TB&T) division, Ms Nandivada is responsible to manage and coordinate all the Project Controls activities for facility design/construction projects including CPM scheduling, budgeting, cost estimating, risk management, reporting, document control, contract administration and administrative services.

  Ms Nandivada is also responsible for design and construction management activities, demonstrating advanced technical experience, education in architecture and knowledge of architectural/engineering systems. Management activities include reviewing and providing comments on the technical design aspects of the facility projects.

  - **New York City School Construction Authority, NY.** *Project Controls Specialist.* Worked on a $3.2 Billion project for NYCSCA, Ms Nandivada was responsible for all

aspects of schedule and cost control for schools in the City of New York using PPM (Version 6). Roles and responsibilities include: Developing and managing 200 integrated construction project lifecycle schedules for capacity projects spanning across 7 divisions within SCA including prototyping, testing and resource management; Identifying scope changes, impact analysis, developing and issuing project change notices, conducting project management briefings; Cost and schedule trends, and analysis of schedule and expenditures using earned value management; Responsible for the provision of overall cost controlling functions for the whole project lifecycle including initial budget set-up, updates and monitoring, forecasting, budget rebaseline, and cost reporting, from the beginning through the completion of the project; BvA (budget versus actual) variance analysis and reconciliation with the financial data sent by Finance, and make any necessary adjustment and accruals; Prepare detailed weekly/monthly cost and schedule reports for all divisions of SCA and external agencies, prototyping, testing and analysis of various report requirements & specifications; Creating documentation of Users Guide, Training Manuals and Business Processes.

- **Modi Construction, Phases 1, 2 & 3 -Township, Hyderabad, India.** *Architect*, responsible for performing technical studies and developing a township with a combination of row houses and independent condos with all the amenities in the township. The project encompassed residential buildings and a combination of commercial and recreational spaces. Took site visits at required stages and made necessary suggestions and recommendations to advise site engineers. Also, assisted in the development of design plans and prepared specifications.
- **Deccan Chronicle Holdings PVT Ltd., Corporate Office Building, Hyderabad, India.** *Architect* responsible for developing office space suiting to future needs with adaptable spaces. Assisted the Chief Architect in designing the structure, and gave necessary suggestions and technical details regarding the new elements that could be used in the building. Performed and coordinated site meetings with client, prime contractor and Chief Architect at each phase of the construction. Additionally, performed construction management, which included field placement of structures and selection of materials. Submitted all drawings to the client and contractors using AutoCAD 2004 and worked with the estimating team and 3D model making agency to enlighten the interior works for the client's satisfaction and approval.
- **Deccan Chronicle Holdings PVT Ltd., Commercial Complex, Hyderabad, India.** *Architect* responsible for developing the design catering to future expansions. Assisted the Chief Architect in designing the structure, have necessary suggestions and technical details regarding the new elements that could be used in the building. Performed and coordinated site meetings with client, prime contractor and Chief Architect at each phase of the construction. Prepared presentation drawings including 3D Views.
- **Deccan Chronicle Holdings PVT Ltd., Secundrabad Club- Sports & Recreational Center, Hyderabad, India.** *Associate Architect*, which included the following responsibilities: designed the facility according to standards and produced AutoCAD drawings for field work; created layout and production of site plans and preliminary drawings; prepared presentation drawings as per client requirements; managed daily project completion and trades coordination; prepared municipal drawings which had to be approved by the Government of Hyderabad; and conducted field inspections to verify compliance with construction documents and drawings.

Louis Berger & Assoc PC

RONI LYN KITCHELL, EIT
Senior Project Controls Specialist

EDUCATION
B.S., Civil Engineering and Economics, Rutgers University, New Brunswick, NJ, 1991

PROFESSIONAL CERTIFICATIONS
Project Management Certification, 2001
Engineering-in-Training Certification, 1993

PROFESSIONAL AFFILIATIONS
New Jersey Board of Professional Engineers – Newark, New Jersey
California Board of Professional Engineers and Land Surveyors – Sacramento, California

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - October 2007 - Present
Terminal Construction Corporation – September 2004 – April 2007
Eclaro International, Inc. – September 2003 – April 2004
EGIS, Inc. – August 2002 – January 2003
Turner Construction – February 1999 – February 2002
Barba – Arkhon – Feburary 1998 – November 1998
Capital Project Management, Inc. – April 1997 – October 1997
Boswell Engineering – May 1996 – April 1997
Nordling, Dean Electronic Co., Inc. – March 1995 – May 1996
California Department of Transportation – September 1991 – February 1995

YEARS EXPERIENCE: 9

PROFESSIONAL EXPERIENCE:

- **Downtown Restoration Program, New York, NY.** *Senior Project Controls Specialist.* Responsible for the review, assessment, validation, and valuation of costs for both design and construction, including monthly cost analysis, invoice processing, and management reporting costs for the $2.877 Billion World Trade Center Freedom Tower Project. Maintains and updates cost-tracking databases and reports to incorporate procurement and contract changes for payments, cost analysis and monthly reporting. Reviews and applies contract language and terms to budget management and reporting.
- **Project Engineering**. Maintained daily interaction with subcontractors, Architect/Engineer, and the Owner in resolving technical, financial and administrative concerns to ensure on-schedule/on-budget completion of projects. Supervised and delegated work to office engineers and staff that generated, analyzed, and tracked cost controls, change orders, material submissions, and delivery status. Administered and enforced company procedures. Pro-actively investigated areas of potential conflict and/or claim. Authored all project communications. Automated logs and correspondence to increase productivity and reduce staff costs.
- **Arch Insurance, New York, NY.** *Contracts & Budgets Analyst (Contract Position).* Developed, executed, and regulated facilities/operations contracts and riders, budgets, bids and

Requests for Proposals. Created departmental policies and procedures. Maintained financial reports for operating expenses and capital projects, and reconciled records with corporate office. Reviewed, reconciled, and approved contractor billing, vendor invoices, payments, back-charges, change orders and contractual adjustments for facility expenses and capital projects; analyzed lease abstracts and maintained lease database; verified rent, escalations, and proportional operational expenses for all properties (national and international locations). Designed Access Reports for budget monitoring.

- **New York City Transit, New York, NY.** *Budget Analyst (Consultant Position).* Responsible for budget development, budget monitoring, variance analysis and reporting for New York City Transit (MTA) subway construction projects in excess of $600 Million. Audited project records for accuracy, completeness, and compliance with federal and state regulations and contractual requirements. Investigated discrepancies in Engineering Force Account charges. Performed confidential ad-hoc budgetary reports as needed by senior management.
- **Various Projects.** *Cost Engineer / Civil Engineer.* Forecasted financial expenditures and earnings on $25 - $35 Million construction projects; calculated and interpreted risk management measures; analyzed budget estimates versus actual expenses; investigated and corrected erroneous general ledger entries; audited jobsite records to ensure compliance with company policy; readjusted earning and expenditures according to changes in project volume and schedule; generated confidential quarterly, monthly, and ad-hoc financial reports for review by the company president and senior management to determine the annual profit plan and sales goals.
- *Construction Claims Analyst* Applied knowledge of the construction industry to provide litigation support for lawyers, insurance companies, and contractors involved on projects that had gone into arbitration and/or claim proceedings. Intensively researched job-site records and drawings for key documents to be used in support or defense of the claim. Supervised technicians in the creation, maintenance and reconciliation of databases and spreadsheets used in issue analyses. Prepared graphic and written materials for presentation to clients and prospective clients.
- **Various Projects.** *Project Engineer/Manager, Municipal Design.* Responsible for all aspects of municipal and private construction projects from designing and estimating, to bid openings and contract award. Increased profit by 30% as the new Project Manager on the re-design of a 48-lot subdivision; supervised Design Engineer, redesigned parcels, and generated monthly and change order billing. Designed plans and specifications for roadway resurfacing and sewer replacement projects. Designed site plans for Sprint's wireless communication antenna installations in New York City.
- **Various Projects.** *Project Engineer, Electrical.* Project Engineer for three Project Managers; supervised trade workers; assisted in the day-to-day operations on multiple multi-million dollar construction projects; provided engineering support to the Manager and Foreman on each job. Monitored performance and financial status of projects; evaluated vendor proposals; negotiated and executed subcontracts; prepared monthly budgets and billing.
- **Various Projects.** *Assistant Resident Engineer.* Worked in field designing and inspected multi-million dollar State transportation projects to ensure compliance with the contract documents. Supervised trade workers and inspected earthwork, grading, drainage, electrical work, and finished roadway. Liaison between the State and Bay Area Rapid Transit (BART).

Louis Berger & Assoc PC

JOI KOENIG
Cost Control

EDUCATION
B.S., Operations Research & Industrial Engineering, Cornell University, 1991

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- March 2006 – Present

YEARS EXPERIENCE: 9

PROFESSIONAL EXPERIENCE

Ms. Joi Koenig is a Project Control Specialist / Cost-Schedule Engineer with over 15 years of experience in the infrastructure development field. She has experience in project scheduling, project and program cost control, the preparation of management reports, and database design and implementation.

- **PANYNJ Project Management Office Assessment.** Interviewed PANYNJ Executive Management and Project Management staff, analyzed business processes by comparing them to other agencies such as MTA CC, NJDOT, DASNY and NYC SCA, quantified project management and project controls staff to capital spending for the four Line Departments (Aviation, PATH, Port Commerce and Tunnels, Bridges and Terminals), investigated the PM's role in the PANYNJ's restructured PM organization, developed recommendations for increasing the effectiveness of the central Project Management Office per principles of the Project Management Institute.
- **PANYNJ Terminal A Modernization & Expansion Program Planning.** Program Controls Manager responsible for providing Program Management Support Services to the Port Authority of New York & New Jersey (PANYNJ). Responsibilities included: producing management reports; coordination of sub-consultant payment process; creating and maintaining program cost, budget, and task order tracking database; creation of Program Management Plan; and oversight of document control and scheduling functions.
- **PANYNJ Newark Liberty International Airport Redevelopment Program.** Program Controls Manager for this $780 Million program. Responsibilities included: maintaining program master schedule, which incorporated Port Authority (PA), tenant, and contractor schedules; developing project and departmental baseline budgets and then tracking actual costs and forecasts on a monthly basis and comparing against baselines; producing weekly and monthly management reports, which included project status, summary schedule, cost forecasts, and earned value analysis; reviewing and monitoring tenant costs, invoices, and change orders; maintaining program Work Breakdown Structure; overseeing document control functions; and preparing annual department budget.
- **PANYNJ Terminal B Renovation, Newark Liberty International Airport.** Program Controls Manager responsible for developing and updating the project master schedule and management reports for this $136 Million Capital Program to renovate Terminal B at Newark International Airport. Reports included project status, summary schedule, cost forecasts, and earned value analysis.

- **PANYNY Northeast Corridor Monorail Extension.** Cost Control Engineer responsible for performing cost analysis for the NE Corridor Monorail Extension Project. Coordinated the download of accounting information and audited actual charges made to the project. Created and maintained cost database and reports for $13 Million annual Newark Airport major work program projects.
- **New York City Department of Transportation, St. George Ferry Terminal Renovation.** Responsible for tracking of submittals and requests for information. Created and maintained project master schedule for this $20 Million wharf and ferry slip renovation. Developed and issued weekly and quarterly cost and schedule status reports.
- **NJDOT Department of Transportation Pilot Program.** Supervised four schedulers to create design phase schedules for a $2.4 Billion pilot program. Developed scheduling standards and procedures for capital program. Designed and managed the development of the Project Management Control System (PMCS), allowing real time access to project schedule and cost information; system fed a Department-wide monthly executive status report. Responsible for coordinating the implementation of the PMCS and project controls process (scheduling, cost, reporting) with Project Management and Design Units. Identified and categorized more than 28,000 jobs into distinct projects for the classification and cost control of a $3.5 Billion capital program. Created format for reporting of in-house project costs and forum for Project Manager approval of these charges.
- **New York City School Construction Authority Various Projects.** Developed and updated project master schedules that tracked projects from scope through closeout for 200 major construction projects. Assisted in designing a user-friendly schedule and cost reporting system used by over 300 users; wrote user's manual and trained users. Developed model to determine annual level of full-time employees needed for a $5 Billion Capital Program.
- **Metropolitan Transportation Authority Various Projects.** Reviewed and analyzed contractor project schedules. Maintained and enhanced database of project concerns; used data to develop quarterly statistical report. Developed, authored, and issued a project procedures manual improving productivity and enhancing performance and quality of service.
- **Eastman Kodak.** Industrial Engineer responsible for maintaining cost and schedule controls for development of waste tracking system. Led production team to design and implement data handling system.

Louis Berger & Assoc PC

JODY WILLIAMS
Risk Assessment

EDUCATION
Bachelor of Construction Engineering Technology, Purdue University, Fort Wayne, IN, 2006
Associate's Degree, Architectural Engineering Technology, Purdue University, Fort Wayne, IN, 2005

PROFESSIONAL TRAINING
BIM Model Visualizations/4D Schedule Development
Timberline for Construction Cost Estimating
Revit and Navis Works
Primavera P5 & P6
Primavera Pertmaster and @Risk for Risk Analysis
Expedition and Livelink (Document Control)
Earned Value Analysis using Prism
AutoCad, Microsoft Office

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- July 2007 – Present

YEARS EXPERIENCE: 5

PROFESSIONAL EXPERIENCE
Ms. Williams is a Project Control Engineer with over five years experience in scheduling, engineering, and estimating. She has provided valuable services for Port Authority projects.

- **Port Authority of New York & New Jersey, Newark Liberty International Airport, Newark, NJ.** *Project Control Specialist*. This project consists of the redevelopment of Terminal A, which includes a new state of the art facility, a new infrastructure system consisting of both utilities and roadways, two 3,500 parking space garages, and the future development of the current Terminal A. Responsibilities include: creating initial construction schedules; assisting with the development of the Program Management Plan; creating a schedule for the Airport Operations Management preliminary meeting with tenants, contract negotiations and takeovers, and construction; provides schedule risk management; and assists in program economics based on initial and updated construction schedules. Project Value: $3.8 Billion.

- **MASDAR Headquarters, Abu Dhabi, United Arab Emirates.** *Project Controls Specialist.* This project consists of the design and construction of a new world-class innovative headquarter building for the new zero-carbon city of MASDAR, Abu Dhabi. This building will be a landmark in sustainable architecture and engineering design, exceeding the current highest standards of green building energy and waste efficiency, material technologies, and integrated design thinking (above LEED Platinum+). Responsibilities include: working with field personal to collect risk ranges for various affected activities; creating and inputting the ranges into Pertmaster; identifies errors within the project to deter false results; generates results for affected risks; and assists in creating final risk reports.

- **US Army Corps of Engineers, Picatinny Arsenal, Sparta, NJ.** *Project Control Specialist*. This consists of four different projects, which include an Explosives Research and Development Facility, a Pyrotechnics Research and Technology Facility including a Flare Tunnel, a High Energy Propellant Formulation Facility, and the Picatinny Arsenal Fire Station. Responsible for: working with Corps of Engineers (COE) in analyzing construction progress schedules; developing progress schedule reports; providing information to assist the COE in aiding their appointed contractors with scheduling errors; providing schedule analysis for the COE for

Request for Payment from their appointed contractors; analyzing monthly contractor progress schedules for logic, negative float, and out of sequence work; and analyzing documents and schedules for generating reports for claims resolution.

- **Various Project, Lebanon, NJ.** *Project Estimator*. Responsible for performing quantity take-offs and preparing cost estimates for large general contracting firms. Served as a liaison between the Project Manager and General Contractor to ensure accurate and qualified estimates. Also, managed the preparation of shop drawings for large projects including *Freehold Raceway Mall* and *The Watermark*. Performed for Port Morris Tile and Marble.

- **Various Projects, Waterloo, IN.** *Structural Detailer*. Responsible for performing project specific calculations of overall length of columns and rafters and calculations of overall length of purlins and girts. Also responsible for designing the roof and wall sheeting systems based on customer specifications. Worked directly with engineering staff to finalize building layouts for implementation of production and construction, and with Customer Service and Quality Service Representatives to ensure customer satisfaction. Performed at Nucor Building Systems.

Louis Berger & Assoc PC

JERRY DREYON REAVES
Document Control

EDUCATION

B.A., Psychology, Rutgers University, 1983
Geographical Information Systems (GIS) studies, Rutgers University
520 Intranetware 4.11 Administration, Novell Education
Paralegal Program, Diploma, New York University (NYU)
Certificate, Pre-Legal Studies, Seton Hall Law Center and Rutgers School of Law, Newark, NJ

CERTIFICATIONS

Geomatics (GIS) Rutgers University

COMPUTER SKILLS

- **Network Environment**

Topologies:	10Base-T Ethernet	ARCnet
Servers:	Compaq Proliant 5500	Dell 486DX/33
Software:	Novell Netware 4.1	Novell Netware 3.11
Hardware:	Novell NE3200	HP SureStore 6000 Tape Backup

- **Workstation Environment**

Computers:	IBM Compatible 486/Pentium	Dell Gx & Ga Series
Operating Systems:	Windows 2000 & 98	Windows 95 (network)

- **Software:** Livelink (Open Text), MS Office Suite 2000 (Word, Excel, PowerPoint), Paint Shop Pro, Adobe Acrobat Professional, Adobe Photoshop, MS Visual Basic, Novell ZENworks, Compaq Insight Manager, Trimble GPS Pathfinder & Asset Surveyor software, ArcView 3.2, ArcInfo 8.1, Kane Security Analyst, Cumulus, MS Exchange, Expedition

HISTORY OF EMPLOYMENT

Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- July 2010 - Present

YEARS EXPERIENCE: 17

PROFESSIONAL EXPERIENCE

Mr. Jerry (Drey) Reaves is currently a Digital Information Manager. His background includes administration of an intranet-based documentation system that includes a document exchange function and enormous photo management component, development of an automated system for the approval, tracking, and distribution of confidential and privileged security information, and implementation and maintenance of a Work Breakdown Structure based document management system. Mr. Reaves' duties have also included administrating and supporting a Novell network with more than 200 users while providing desktop support. Relevant project experience includes:

- **Port Authority of New York & New Jersey, Terminal A Modernization & Expansion Program, Newark Liberty International Airport, Newark, NJ**. *Digital Information Manager*. Responsible for content management of an intranet website (Livelink), that contains

confidential and security documents and is accessed by internal and remote staff. Job functions include: applying permissions, creating groups, training website users, supervising staff, overseeing scanning operations, and converting native files to a portable document format. Also responsible for developing and implementing systems to supplement the management of program-related records.

- **Port Authority of New York & New Jersey, Downtown Restoration Program (DRP), New York, NY.** *Website Content & Electronic Documents Manager*. Responsible for populating and maintaining documents on an intranet website. Other job functions include: supervising a staff, overseeing scanning operations to convert hard copies to electronic format, as well as maintaining hard-copy files for retrieval and archiving. Creating project folders and acquiring and codifying document files and images, and coordinates intranet access for internal and external staff to facilitate the exchange of documents. Develop and implement a tracking system for confidential and security related documents. Responsible for maintaining a digital asset management system comprised of hundreds of progress photos. Trains and assists website users. Also responsible for implementing an independent e-mail storage application.
- **Port Authority of New York & New Jersey, Newark International Airport Redevelopment Program, Newark, NJ.** *Help Desk Manager*. Supported a Novell network with more than 200 end-users. Duties included administration of a NetWare 4.11 server, and desktop maintenance comprised of PC configuration, software installation and upgrades; hardware, software, network and printing troubleshooting, and performance monitoring. Responsible for daily network backups, file maintenance, and security. Also responsible for creating and controlling network accounts, upgrading and configuring software for workstations, as well as attaching and administering peripheral devices. Maintained Novell and Microsoft Exchange user accounts.
- **Port Authority of New York & New Jersey, Newark International Airport Redevelopment Program, Newark, NJ.** *Document and Communications Systems Manager*. Responsible for the implementation and maintenance of a document scanning system used to manage program documentation. Responsible for: Supervising and training staff; designing and maintaining a database system to facilitate document retrieval; developing document tracking and control systems for contract drawings, and specifications; constructing a Resource Library to house various reports, proposals, and technical information; maintaining physical control of program related files; acting as purchasing agent for hardware, software, and various office equipment. Maintained a hardware and software inventory tracking and retrieval system, and administered an AT&T System 25 phone system.
- **Port Authority of New York & New Jersey, Newark International Airport Redevelopment Program, Newark, NJ.** *Document Control Technician*. Assisted in implementing and designing various logs and databases for document tracking. Also assisted in constructing a document coding system for program correspondence; coordination and distribution of project design review documents and drawings; maintenance of central file area.
- **Port Authority of New York & New Jersey (Engineering Department), New York, NY.** *Contract Administration Aide.* Processed Management and Law Department review documents, prepared bid schedules and reported bid results to contractors. Also distributed contract drawings and specifications to prospective bidders; instructed contractors on the Port Authority construction bid process.

Louis Berger & Assoc PC

ADAM KING

Project Controls Training & Implementation

EDUCATION

BA, English, Salisbury University, Salisbury, MD, 2008

PROFESSIONAL CERTIFICATIONS

Certified Primavera Consultant & Trainer for P6 (V6 and V7)
Suretrak, Contractor & Contract Manager

HISTORY OF EMPLOYMENT

Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- Sept 2010 – Present
Catalyst, Inc. – 2008 - 2010

YEARS EXPERIENCE: 2

PROFESSIONAL EXPERIENCE

Mr. Adam King possesses over two years of Primavera consulting experience with small business and individual markets. He has provided project management training and consulting to a multitude of Clients in several industries including, federal, state and local government agencies, construction and engineering, research and development, and manufacturing. Mr. King has received consistently above-average performance evaluations by Clientele for all classes to date. Moreover, he received Catalyst's performance excellence award for outstanding professional development in learning and becoming certified in Primavera tools. Other skills include:

SCHEDULING:

- ✓ Trains Clients not only in Primavera P6, but also in scheduling and project controls concepts from the Project Management Institute (PMI). The majority of these projects have been construction projects with fast paced deliverables to federal, state and private owners.

MANAGEMENT:

- ✓ Certified Primavera Contract Manager Ver. 12 - have trained Clients both on-site and off-site in an open classroom setting in how to use this document management system and in aligning their business processes and procedures to work within this tool.

TECHNOLOGY:

- ✓ Worked closely with a variety of Clients to resolve specialized issues regarding Primavera tools in conjunction with other applications resulting in experience with several other software platforms.
- ✓ Have effectively integrated Primavera tools with the most recent versions of Hard Dollar Estimating, Timberline, Microsoft SharePoint, and Microsoft Project.
- ✓ Currently learning Bentley Systems (BIM, Autodesk)

- ➢ **Various Projects.** *Project Controls Implementation & Training.* Develop and evaluate new strategies to enhance upon existing project controls practices. Responsible for developing and implementing training programs for clients and in-house management staff. Develops

Primavera P6, Contract Manager, Earned Value and other project controls related training manuals.

- **Various Projects.** *Primavera Consulting / Implementation Services.* Worked closely with Client in federals, state and local governments, and the construction and engineering industries to manage project schedules and train personnel in Primavera tools (P6, P6 Web, SureTrak, P3, and Contract Manager) as well as providing technology support for several other software programs. Also successfully implemented tools and strategies to a variety of Clients.

GERARD SALERNITANO

Program/Project Manager - Aviation

EDUCATION

B.S., Civil Engineering, New Jersey Institute of Technology, 1996

HISTORY OF EMPLOYMENT

Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - January 2003 to Present
URS - June 1998 to January 2003
Killam Associates - May 1996 to June 1998
Spiniello Construction - June 1987 to November 1995

YEARS EXPERIENCE: 14

PROFFESSIONAL EXPERIENCE

Gerard Salernitano serves as a Senior Airport Engineer with 14 years of technical engineering experience and has managed many types of diverse projects with a strong emphasis in aeronautical engineering. With his core base of understanding in the metropolitan New York and New Jersey area, Mr. Salernitano possesses a strong understanding of the Port Authority of New York & New Jersey (PANYNJ) requirements. As an extension-of-staff for PANYNJ, he has been on site at Newark Liberty International Airport for the Terminal "A" Modernization and Expansion Program and more recently, a project management position for the Project Management Office (PMO) in the Physical Plant and Redevelopment Division for NJ Airports.

Mr. Salernitano was also a Principal Engineer responsible for the complete development of contract documents, including contract drawings, contract specifications and cost estimates for a wide range of clients. During that timeframe, he had the opportunity to manage and design many projects generated from the PANYNJ on-call contracts: including the Engineering Division, Quality Assurance Division and Security Divisions.

Prior to earning his Engineering degree, Mr. Salernitano has over 7 years of hands-on construction experience from a well reputable utility contractor. His specific construction responsibilities included the rehabilitation of existing water mains and installing new utility systems, such as sanitary sewers, storm sewers, and water mains.

Port Authority of New York & New Jersey Experience

- *Project Management – Physical Plant and Redevelopment Division (EWR & TEB)*
- *Modernization and Expansion of Terminal A (EWR)*
- *Project Management – Prequalification of Aeronautical Paving Contractors (EWR, TEB, JFK, LGA, & SWF)*
- *On-Call Civil Engineering Design (PANY&NJ)*
- *Perimeter Intrusion Detection System, PIDS (EWR, TEB, JFK, & LGA)*
- *On-Call Building Condition Assessment (PANY&NJ – Quality Assurance Division)*

- **Port Authority of New York & New Jersey, Project Management of Aviation Projects at Newark Liberty International Airport and Teterboro Airport.** Senior Airport Engineer currently performing duties as an extension to project staff for PANYNJ. The role consists of performing project management duties for facilities at Newark Liberty International Airport and Teterboro Airport. These endeavors include the Pavement Markings project and the Re-pave of Hotel Road at EWR and the following projects at TEB; Rehabilitation of Runway 1-19, Rehabilitation of Taxiway G, and Taxiway K, Installation of a perimeter Patrol Road, Athletic fields Improvements, Wetland Analysis, RSA Headwall Obstruction Study, Wetland Mitigation Development and a study involving Wetland Mitigation vs. Wildlife Hazards and more.
- **Port Authority of New York & New Jersey, Terminal A Modernization & Expansion Program at Newark Liberty International Airport.** Senior Airport Engineer working on the modernization and expansion of Terminal A at Newark Liberty International Airport. The project includes a new state of the art Terminal with new parking garages, air train facility, hotel and new roadway system. His specific responsibilities include the management and design of the roadway system and the utility infrastructure at the airport and surrounding areas.
- **Port Authority of New York & New Jersey, Perimeter Intrusion Detection System (PIDS).** Principal Engineer for the development of a high profile security project at the four major NY and NJ Airports (JFK, LGA, EWR, & TEB). The project is a large joint venture Design-Build project led by Raytheon Engineering, which consists of enhancing security to the Airport perimeters.
- **Port Authority of New York & New Jersey, Rehabilitation of the West Restricted Vehicle Service Road and Taxiway 'S', John F. Kennedy International Airport, NY**. Principal Engineer for the rehabilitation of a 1-mile length of airside service road and rehabilitation to the existing the Taxiway 'S' cracked slabs. Responsibilities included development of Preliminary Engineering documents and including an evaluation of the existing pavement and providing recommendations in a pavement design report. Design work included geometric design, pavement design, and drainage design in accordance with AASHTO and FAA guidelines. Other responsibilities included preparing the contract specifications and construction cost estimate.
- **Port Authority of New York & New Jersey, Crash Barriers – Guard Posts A-1 & A-2, H, J, O, P, R, S, V, W, Z and 106, JFK International Airport, NY.** Principal Engineer responsible for preparation of a major contract modification to the existing construction contract. The work included civil, mechanical, electrical and traffic engineering. Specific civil design work included providing geometric design and installation of a Delta Crash Barrier system at Guard Post H. Electrical and Mechanical Engineering support included design of electrical and hydraulic underground conduits, and electrical single-line diagrams, panel schedules and related arrangement details at site. Other responsibilities included preparing the contract specifications and construction cost estimate.
- **Port Authority of New York & New Jersey, Building 79-Modification of Truck Wash Bay 10, Newark International Airport, NJ.** Principal Engineer responsible for development of construction documents to allow for an outdoor wash-pad that separates storm water from wash water. Specific civil design work included site grading, drainage and pavement design. Electrical and Mechanical support included design of pumps, motor operated valves, and flow switches. Structural support included design of a steel portal frame around the bay opening designed to absorb impact from maintenance vehicles. Other responsibilities included preparing the contract specifications and construction cost estimate.

Louis Berger & Assoc PC

ANDREW CANGIANO P.E., P.P.
Program/Project Manager - Aviation

EDUCATION
B.S., Civil Engineering – New Jersey Institute of Technology-1995

CERTIFICATIONS
Professional Engineer, States of NJ & NY, Professional Planner, State of NJ

YEARS EXPERIENCE: 15

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. – 2009-Present
Corestates, Inc. – 2008–2009
Keller & Kirkpatrick, Inc. –1997-2008
Sverdrup & Parcel (Jacobs) – 1995-1997

PROFESSIONAL EXPERIENCE

Mr. Cangiano has over 15 years of engineering, planning and project management experience in civil engineering related projects. His experience covers a wide-range of construction and engineering projects and was previously responsible for the planning, engineering design and construction administration associated with wide variety of public and private sector projects. Mr. Cangiano is a licensed professional engineer and a licensed professional planner.

This work included airport planning and feasibility studies, airport security improvements, airport utility infrastructure assessments, development of new roads and infrastructure, sewer rehabilitations, pavement rehabilitation, commercial and residential land development, land acquisitions and property subdivisions. Other associated assignments included land use permitting such as, freshwater wetland, coastal area, flood-hazard area and water front development permitting. Mr. Cangiano has routinely provided professional testimony for municipal land use boards and public forum meetings.

- **Terminal A Modernization & Expansion Program at Newark Liberty International Airport (EWR), Port Authority of NY & NJ.** Senior Airport Engineer, the project includes planning of a new terminal, parking garages, new roadway system and associated infrastructure improvements. Responsible for management of a preferred roadway system and utility infrastructure system. Including the analysis of the frontage conditions at the existing terminal, relocation of existing roadways and evaluation of existing utility systems, including fuel delivery/hydrant system, sanitary sewers, storm sewers, water and other utilities. Also assisted in the scheduling, cost estimating and construction phasing for alternate scheme to rehabilitate the elevated roadways at existing terminal.
- **First Aviation Services, Terminal Upgrade, Teterboro Airport (TEB), Teterboro, NJ.** Task Manager, scope included field evaluation of the existing facilities. Prepared plans for the expansion of pavement for taxiways, aircraft parking and drainage infrastructure. Coordinated with client, airport operator and the Port Authority personnel. Design improvements were in accordance with Port Authority and FAA design standards.

- **Inspection of Accessory Structures, Port Authority of NY & NJ**. Project entailed inspection and structural analysis of the accessory structures on the Gothals, Bayonne, and Outer bridge Crossing. Performed in-depth structural condition surveys on the overhead signage and lighting structures on the bridge spans and approaches. Structural condition surveys included extensive field notes and photographs, noting estimated deficiencies and recommended repairs.
- **Security Improvements, Orange County Airport (MGJ), Orange County, NY.** Project Manager responsible for the development of the airport security improvement project. The project scope consists of engineering design and construction inspection services to provide much needed security features to Orange County Airport, improvements include barbed wire security fencing, automated slide gates with keypad access control, a DVR monitoring system, security lighting, security cameras, a card badge system and associated electrical/communication wiring and conduits. The system will monitor gates, administration building and four hangers.
- **PFC Application Assistance, Long Island MacArthur Airport(ISP), Islip, NY** Task Manager, responsible for facility and infrastructure assessment and evaluation. The project provides Long Island MacArthur Airport with PFC application assistance and the related steps necessary for implementation. The program includes capital program and AIP and PFC program review, preparation of an airport capital and financial plan, prepare ALP updates, FAA staff consultation and review prepare and coordination for final application for FAA.
- **On-Call Planning Services, Ball field Feasibility Analysis, T.F. Green Airport (PVD), Rhode Island Airport Corporation ("RIAC"), Warwick RI**. Senior Airport engineer, provided RIAC with a feasibility analysis regarding the of relocating existing baseball fields and two soccer fields located south of the Airport, to alternate sites located at either the Community College of Rhode Island, Knight Campus, or two other nearby sites. The effort addressed the suitability of the sites to accommodate the ball fields, parking needs and other associated amenities. Site boundaries, topography, environmental issues and existing conditions were taken into consideration when developing new ball field schemes. Responsible for the evaluation of the properties, design of conceptual plans and preparation of construction cost estimates.
- **Program Status Reporting, Florida Department of Transportation, Distrct-6**. Task Manager in support of a District-wide Public Transportation Consultant agreement with the Florida Department of Transportation (FDOT). Performed Project Management Site Visits and prepared associated reports for FDOT Aviation Program funded projects in Dade and Monroe Counties. Project and airport managers were interviewed and verified compliance with Joint Participation Agreements and other project documents.
- **St. Philips Academy, Newark, NJ.** Project Manager, responsible for zoning and site plan approvals and for developing site plans and construction documents for a private elementary school. This project includes rehabilitation of an existing factory building for conversion to a private school, a multifunction play area and a parking facility across the street. The project was designed to be a "green" project meeting the requirements for LEEDS certification. Specifically designed the site infrastructure, roof drainage system and stormwater management measures to meet the LEED certification goals. Additional responsibilities include construction administration during the construction period.

Louis Berger & Assoc PC

H. WAYNE VALENTINE, P.E.
Program/Project Manager - TBT

EDUCATION
M.S., Civil Engineering, New Jersey Institute of Technology, 1983
B.S., Civil Engineering Technology, Fairleigh Dickinson University, 1974

PROFESSIONAL REGISTRATIONS
Professional Engineer – NJ

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - January 1998 – Present

YEARS EXPERIENCE: 36

PROFESSIONAL EXPERIENCE
Mr. Valentine has over 36 years experience in construction and engineering design. He has experience in project and construction management and quality control for a wide range of public and private agencies, as well as experience in administration of construction contracts. Mr. Valentine has additional experience in procurement, negotiation of subcontracts, financial forecasts, scheduling, cost estimating and claims. Mr. Valentine also performs administrative oversight for five-onsite construction inspectors located out of state, provides constructability reviews of plans and specifications and assists the marketing department in performing site inspections. His Previous experience includes on-site contract administration and construction management, the structural design of large natural draft and mechanical draft cooling towers, tall chimneys and large silos. His overall experience also includes seven years experience with the inspection, rehabilitation and structural design of fixed span and movable span bridges and concrete culverts. Relevant project experience includes the following:

- **The Port Authority of New York & New Jersey, Security System Replacement at Journal Square Transportation Center and Upper Level of the Hackensack River Bridge.** *Project Manager* for the Stage 3 and Stage 4 services. Provided on site inspection of the existing security system at over 50 locations, provided recommended repairs and replacement of entrance- ways and security upgrades for the PATH wide standard Lenel Security system. Security upgrade includes doors, grates and frames, access control modules, such as card readers, door contacts, motion detectors, duress buttons wiring and tie –in to existing system while maintaining security. Existing CCTV cameras were also integrated into the Lenel security system. Project involved preparing contract plans and specifications and cost estimate for demolition of existing facilities, installing new system, up-grading or replacement of doorways.
- **Port Authority of New York & New Jersey, On Call Construction Management Services.** *Project Manager* providing Construction Administration and Inspection on the construction of the various new and maintenance type projects at Newark Liberty Airport and the Brooklyn Marine Terminal. Projects have included installation of fire alarm system upgrades, emergency repairs to waterlines, drainage improvements, resurfacing parking lots, installation of security devices and CCTV cameras in Terminals A and C at the Airport, and piling repairs and restoration along with structural repairs to existing bulkheads and piers at the Marine Terminal.

Responsible for overall supervision of four on-site construction inspectors and providing contract administration with the PANYNJ Construction Management Department.

- **Red Bull – New York, Inc: Harrison, New Jersey**. *Project Manager/Resident Engineer providing Construction Administration and Inspection* on the construction of a large sports and entertainment stadium. Performed inspections to verify that construction is in accordance with the plans, specifications, local codes and standards of the Owner. Provided progress reports to the Corporate Representative. Assisted client in reviewing construction costs. Monitored project schedules, evaluated change orders and assisted client in the buy-out of the project, and interfaced with the Contractor's Project Manager and Facility Coordinator. Scope of responsibilities on site include but were not limited to monitoring of all concrete work (below/above grade); structural steel fabrication and erection; precast stadia fabrication and erection; precast plank fabrication and installation; all MEP installations; all building envelope installations (stadium skin, canopy skin, building skin, all roofs); soccer field construction including drainage and underground heating systems; site utility and drainage installation; all audio-visual, security, telecast, broadcasting systems; installation of stadium seating as well as overseeing the architectural finishes of the arena's integrated 5 story multi-use building that is to hold the player locker rooms, kitchen/catering areas, Red Bull New York offices, luxury suites, restaurant/bar areas as well as broadcast facilities. This effort includes direct management of a team of an Resident Engineer,(4) field inspectors additional to a subcontractor inspection/laboratory team of NJ State certified DCA Special Inspectors for (1) structural steel bolting/welding, (2) concrete placement & testing laboratory, (3) concrete reinforcement pre-placement inspection (1) spray-on fireproofing which totaled 11nspectors Additional team members were utilized when structural steel fabrication (in Canada) and precast concrete fabrication (in Bethlehem, PA and Gettysburg PA) were active. Completion Date: January 2010.

- **City of Newark, New Jersey, Wilson Ave Drainage Improvements, Pierson's Creek.** *Project Construction Manager/Resident Engineer* for Phase 1 of this $8.3 million project involving the removal and replacement of concrete curbs and sidewalks; installation of 1,800 linear feet of 4' by 10' precast box culvert; installing 48-inch pipe; open channel grading and excavation; micro-tunneling of two –60-inch diameter pipes; coordination with numerous public and private utilities, Conrail, and local business owners; relocation of existing utilities; and milling and resurfacing. Provided construction administration, construction inspection, coordination of materials testing, and coordination of maintenance and protection of traffic with local police. Evaluated and approved pay requests. Responsible for overall supervision of one on-site construction inspector and coordination with City of Newark Engineering Department.

- **NJ Turnpike Authority, Interchange No. 1 Toll Plaza Relocation Wetland Mitigation, Carneys Point, Salem County, NJ.** *Resident Engineer* for construction of a 13-acre wetland mitigation project to compensate for wetland impacts due to the relocation of the Interchange 1 Toll Plaza. Provided assistance during bid, shop drawing and submittal reviews, review and approval of contractor's project schedule, processing of construction progress payments, and construction inspection and administration in accordance with the NJTA *Construction Procedures Manual*. Responsible for overall supervision of on-site construction inspectors and coordination with the NJTA Project Manager.

Louis Berger & Assoc PC

JOHN C. HASSELMANN, P.E.
Program/Project Manager - TBT

EDUCATION
B.S., Civil Engineering, Old Dominion University, 1988

PROFESSIONAL REGISTRATION
Professional Engineer, New Jersey [redacted] and Virginia [redacted]

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. – April 2006 - Present

YEARS EXPERIENCE: 28

PROFESSIONAL EXPERIENCE
Mr. Hasselmann is a licensed civil engineer with 20 years of professional experience in engineering, management, design and construction. Mr. Hasselmann manages multi-discipline Architect-Engineer teams for planning and design of facilities in New York and New Jersey, and manages construction support services including engineering during design services, and inspection and scheduling. He was with US Army Corps of Engineers (USACE) in Baltimore, Europe and North Atlantic Division in New York. Mr. Hasselmann has extensive management experience including broad oversight of regional programs, management of Architect/Engineer and Construction contracts at numerous sites, and leadership and management of design-build project delivery teams.

- **New York District Army Corps of Engineers, Facility Renovations, Fort Hamilton, NY.** *Program Manager* for renovations to heating ventilation and air conditioning systems to three (3) buildings: Bldg #114 Administrative Medical, valued at $3,000,000; Bldg # 230 Army Harbor Defense Museum valued at $200,000; and Bldg # 402 the MWR Gymnasium valued at $2,500,000. Mr. Hasselmann led the design teams to evaluate existing system equipment conditions and the presence of hazardous materials, best value evaluation of system replacement options, and provide the complete design for system replacements.
- **New York District Army Corps of Engineers, All Weather Marksmanship Facility, Fort Drum, NY.** *Charrette Facilitator and Program Manager* for planning charrette services to provide three (3) in-door marksmanship facilities valued at $5,000,000 each, and that meet Range Operations requirements, minimize range down time and maintenance issues, and meet Fort Drum master planning requirements, as well USACE design and cost estimating requirements. Mr. Hasselmann managed a multi-disciplined design team to provide three (3) preliminary site locations, structural considerations, utility identification, storm water drainage plan, and firing range safety appurtenances as well as concept design and drawings, design analysis and recommendations, and a PACES cost estimate to validate the DoD 1391 document.
- **New York District Army Corps of Engineers, Picatinny Conference Center, Picatinny Arsenal, Dover, NJ.** *Project Manager* for design and construction support of renovation and expansion plan to an existing building. Renovations valued at $4 million. Design included damage assessment, structural shoring and rehabilitation, design of catering facilities and conference space. Considerations during design included existing structure, lines-of-sight for Command Town Hall meetings, multi-media equipment and lighting levels. Construction phase

services include demolition and shoring plan approval, and on-site demolition phase structural inspection.

- **Armament Technology Facility, Armament Integration Concept and Full Design, Picatinny Arsenal, Dover, NJ**. *Project Manager* for Armament Technology Facility, Armament Integration Concept Design, Picatinny Arsenal, Dover, NJ. Charrette Facilitator and Project Manager for Code 3 Parametric Design (15%), and Full Design (100%) to construct a testing and simulation laboratory and indoor firing range that sustains high pressures caused by large caliber weaponry. Construction valued at $9 million. Mr. Hasselmann managed multi-disciplined design team to provide preliminary Lab and Range site location, structural considerations, utility identification, storm water drainage plan, and firing range safety appurtenances as well as concept design and drawings, design analysis and recommendations, and a PACES cost estimate to validate the DoD 1391 document. Full Design was approved in Federal Fiscal Year 2007, and Mr. Hasselmann led design team for progress submittals including DoD Explosive Safety Board. Design considerations include aggressive ventilation in range to abate industrial hygiene hazards created by air borne lead and silica dust.
- **USACE Resident Office Construction Support Services, Picatinny Arsenal, NJ.** *Program Manager*. Supported Resident Construction Office with construction schedule review, claims analysis, and construction inspection services including daily reports, RFI responses, and contractor manpower analyses.
- **Pyrotechnics Research Facility Design, Picatinny Arsenal**. **Pyrotechnics Research Facility Design, Picatinny Arsenal**. *Technical Reviewer* for the design of $10 million, 5-building complex for testing, research and development of pyrotechnic flares at Picatinny Arsenal. Facility is designed with substantial dividing walls for blast protection in accordance with DA PAM 385-64 base on hazardous operations involving classified explosives. Supporting facilities include ultra high speed deluge fire protection, fire service tanks/pumps/piping, intrinsically safe electrical fixtures, explosion-proof HVAC systems, fugitive emissions controls, storm and sanitary sewers, access roads, potable water, electrical service, natural gas service, fiber optics/information systems, security systems and industrial gases.
- **Design for the Modified Record Fire (MRF) Range, West Point Military Academy.** *Technical Reviewer and Construction Phase Support Manager* for Design to upgrade USMA's historic firing range to meet current US Army standards. Design included upgrading range with options for fiber optics and SIT targetry, solutions for site drainage and flooding problems, electrical wiring malfunctions, and environmental permitting requirements for Long Pond Brook. Site improvements included demolition, Design for Instruction Building, Latrine, and Covered Mess. Final design of MRF Range which has MCA construction funding of $4,000,000. Construction Phase Support included submittal review and RFI responses.
- **Emergency Program Manager, US Army Corps of Engineers, Northeast Regional Office (North Atlantic Division), Emergency Management, Brooklyn, NY**. Managed Emergency Flood Control Program for Northeast, as well as ongoing relationship with FEMA, under which several million dollars are assigned for recovery efforts including emergency temporary housing, power, and other utility connections. Mr. Hasselmann ensured that Regional Office was prepared to manage responses to hurricanes, local floods, river ice jams, oil spills, and national security events.

Louis Berger & Assoc PC

RICHARD W. LAW, P.E.
Program/Project Manager - TBT

EDUCATION
B.S., Civil Engineering, Stevens Institute of Technology, New Jersey, 1986

PROFESSIONAL LICENSES
Professional Engineer – NY and NJ

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - April 1998 to Present
Amercom Corp. - October 1991 to April 1998
NH Bettigole, PA - August 1986 to October 1991

YEARS EXPERIENCE: 24

PROFESSIONAL EXPERIENCE
Mr. Law has over 24 years of technical and management experience in civil engineering related projects. The majority of his experience is on projects in the New Jersey and New York metropolitan area. He has also spent 9 years working overseas managing some most noteworthy and high profile projects. As a designer and project manager, he has worked on all aspects of civil engineering and has prepared many designs and complete bidding documents on many different types of projects. While serving as a Resident Engineer, he has gained a significant amount of field experience, which he has reflected on the designs under his supervision.

- **Port Authority of New York & New Jersey (PANYNJ), Lower Manhattan Reconstruction Project, New York City.** *Construction and Design Management Specialist* preparing Project Management Manuals for WTC Memorial and One World Trade Center (Freedom Tower). Task included compilation of all procedures, controls, roles, responsibilities and technical obligations required for these two major components of this extremely high-profile project. Included numerous technical review/evaluation meetings necessary to providing realistic and useful Project Management Manuals, which will be primary management resource during lifespan of projects.
- **Port Authority of New York & New Jersey (PANYNJ), Lot G Reconstruction, Newark Airport, NJ.** *Project Manager* for design of reconfiguration of access roads to and including Lot G at Newark Airport to provide safe access road and organized parking facility consistent with ongoing airport expansion. Involved monitoring existing and proposed traffic management systems, design of parking facility including layout, temporary traffic control (including detours), lighting and construction staging and multiple discipline coordination with adjacent roads, parking garages and access roads. Traffic management for these projects challenging due to necessity of extremely efficient traffic control to limit impact in these heavily trafficked areas.
- **Port Authority of New York & New Jersey (PANYNJ), George Washington Bridge Deck Repairs and Approach Reconstruction.** *Project Manager* for design for construction staging and traffic control for overall project, which involved sub-consultants and agencies. Project included designing desirable traffic control measures for each construction stage, designing detours for more problematic and/or critical construction stages, temporary and permanent signage and striping, and safety improvements. Project required multiple and inter-governmental coordination for George Washington Bridge as well as Palisades Interstate Parkway and NJDOT

Approach Roads. Project was in one of most heavily travelled corridor which serves as main approach to New York City. High traffic volumes, restricted working areas, high traffic demands and stringent restraints from local opposition to project made this work particularly challenging.

- **Port Authority of New York & New Jersey (PANYNJ), Goethals Bridge and Outerbridge Crossing Lighting and Impact Attenuation Replacement Project and the Bayonne Bridge Toll Plaza Impact Attenuation Replacement Project**. *Project Manager* for each contract, including design of most desirable traffic control measures, construction staging, and detouring for problematic/critical construction stages. Complex traffic control measures were required at each site, especially Goethals Bridge due to numerous access roads and connectors in this highly urban, heavily travelled area.
- **General Services Administration, General Services Office Manhattan Office, New York City.** *Construction Manager* for various building reconstruction/renovation projects for two GSA primary government buildings in Manhattan. Included day-to-day inspection of contractor's construction operation, progress schedule, and chairing progress meetings attended by all relevant parties. Several projects were simultaneously ongoing. Position included numerous technical review/evaluation meetings, addressing all construction-related issues and disputes including providing responses to all RFIs, issuing of RFPs and negotiation of Contract Modifications.
- **PM Design Phase, RE Construction Phase, World Bank, Hanoi Urban Transport Improvement Project, Hanoi, Vietnam.** *Project Manager/Resident Engineer* responsible for the supervision of construction works for full reconstruction of 7.4km urban highway through most densely populated and congested sections of Hanoi. Project involved major intersection reconfigurations, full roadway reconstruction including a complete urban drainage system, multiple utility relocations and many new ramps and retaining wall structures. Coordination between many various agencies was required to ensure compliance with local regulations and permit requirements.
- **Asian Development Bank, Second Highway No. 1 Improvement Project, Hanoi to Lang-Son, Vietnam.** *Project Manager* for supervision of completion of construction works for new highway corridor extending 160km south from China to Hanoi. This new rural highway serves Northern Vietnam as primary north-south route in region. Roadway was constructed in area with varying terrain from mountainous sections with very high cut and fill sections to flatlands with poor soil conditions, requiring numerous soft soil treatment measures. Numerous large bridge structures, box culverts and highway overpasses/interchanges were included.
- **World Bank, Hanoi South Development Corridor Project, Vietnam.** *Project Manager/Resident Engineer* for Contract Management and Supervision of completion of construction works for new highway corridor extending 26 km south from the City of Hanoi. Project involved coordination and supervision of 4 main contractors and numerous sub-contractors.
- **World Bank, PM Design Phase/RE Construction Phase, Hanoi Urban Transport Improvement Project, Vietnam.** *Project Manager/Roadway Design Engineer* for design of roadway traffic and safety improvements in Hanoi. Project included 42km of highway and local street redesigns in three main Corridors and two Quarters of city's most densely populated and congested sections. Project also included preparation of 4 procurement packages including Traffic Signals (at 76 intersections), Vehicles, Enforcement Equipment, and Communications Equipment.

Louis Berger & Assoc PC

RICHARD BARRINGTON, P.E.
Program/Project Manager - TBT

EDUCATION
B.S./1996/Civil and Environmental Engineering Cornell University

PROFESSIONAL REGISTRATION
Professional Engineer – NJ

PROFESSIONAL ASSOCIATIONS
American Society of Civil Engineers

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.– Nov.2004 to Present

YEARS EXPERIENCE: 14

PROFESSIONAL EXPERIENCE
Mr. Barrington is a licensed principal engineer with over fourteen (14) years experience in design services for civil and environmental engineering. He has been involved in a wide variety of projects for both private and public sector clients. His experience ranges from preliminary investigations and conceptual plans, through design and preparation of contract documents, to construction phase services. He has specific technical expertise pertaining to both the regulatory end and the private developer end of site development. Relevant project experience includes the following:

- **Port Authority of New York & New Jersey, On-Call Civil Engineering Services.** *Project Manager* responsible for civil engineering and design associated with roadway, drainage and pavement design at JFK, Newark and LaGuardia Airports. Performed engineering assessments and development of design plans, specifications and cost estimates for EWR Baywater Piping Removal, Building 141 Site/Civil and Parking Design.
- **Port Authority of New York & New Jersey, On-Call Security Engineering Services, EWR Unmanned Gates Stage 1 through 4.** *Project Manager* responsible for civil engineering and design associated with security improvements at three (3) Unmanned Gate Locations at Newark Liberty International Airport. The project included both physical and technical improvements consistent with existing PANYNJ technology requirements and design based threat requirements.
- **Port Authority of New York & New Jersey, On-Call Security Engineering Services, LGA Unmanned Gates Stage 1 through 4.** *Project Manager* responsible for civil engineering and design associated with security improvements at two (2) Unmanned Gate Locations at LaGuardia Airport. The project included both physical and technical improvements consistent with existing PANYNJ technology requirements and design based threat requirements.
- **Port Authority of New York & New Jersey, On-Call Security Engineering Services, Holland & Lincoln Tunnel Strengthening Stage 1 through 4.** *Project Manager* responsible for developing Stage 1 Report inclusive of multiple modifications addressing strengthening of elements at both facilities consistent with PANYNJ requirements. Additionally, civil engineer responsible for drainage improvements at certain portal locations including Lincoln Tunnel Dyer

Plaza.

- **PANYNJ, Perimeter Intrusion Detection Systems, Design/Build Project.** Civil/Structural Engineer responsible for providing lead design engineering services for civil/utilities and environmental/permitting aspects as well mechanical and electrical engineering support services within the command and control rooms for this **confidential** security PIDS design/build project for all major NY and NJ airports.
- **Red Bull New York, Pro Soccer Training Facility, Hanover Township, NJ.** Responsible for the permitting and construction documents associated with the creation of a professional soccer training facility in Hanover Township New Jersey. In addition to site design and layout, the project also included design of a new pump station and force main in addition to utility services for the site buildings and fields, icnlsuive of booster pumps to facilitate irrigation design.
- **Bryant Park Development Corporation, Bryant Park Subterranean Switchgear Room, New York NY.** *Civil/Structural Engineer* responsible for providing lead engineering services associated with the planning and NYCDOT permitting for a new underground office/maintenance spaces including a new switchgear room. The work included coordination with Con Edison and NYCDOT to obtain permits to place transformers within City right of way and to facilitate relocation of utilities with City ROW.
- **New York City Law Department, Staten Island Bluebelt, Staten Island, NY.** *Civil Engineer* responsible for preparation of subdivision plans, roadway improvement plans, site plans, utility plans, grading and drainage, and expert witness testimony for condemnation of over ten (10) parcels as acquired by the City of New York in areas within the Richmond Terrace Region. Additionally, provided consulting and review services to respond to questions and rebuttals from opposing legal counsel.
- **College Point Associates, Waldbaum's Plaza, College Point NY.** *Civil Engineer* responsible for preparation of roadway improvement plans, site plans, utility plans, grading and drainage, and zoning applications forms for private client to aid in the redevelopment of the College Point Plaza in College Point NY.
- **DEVCO, Transit Village / Gateway Redevelopment Project, New Brunswick, NJ.** Responsible for the permitting and site civil construction documents associated with the creation of a mixed use redevelopment site in New Brunswick New Jersey. In addition to site design and layout, the project also included incorporation of various perimeter security devices such as bollards to control vehicular and pedestrian traffic.
- **Readington Board of Education, Pump Station and Forcemain Installation, Readington, NJ.** *Civil/Structural Engineer* responsible for providing lead design engineering services for the decommissioning of an existing wastewater treatment plant and the construction of a new pump station and one mile long force main to convey sanitary wastewater from the existing school facility to the existing township gravity sewer system. The project included the development of plans, specifications, cost estimates, and permits for the sanitary sewer project.
- **Hudson-Bergen Light Rail Transit System, Hudson County, New Jersey.** *Design Manager* responsible for the conceptual analysis and preliminary engineering for a 1 mile extension of the existing Light Rail System through the City of Bayonne New Jersey. Led a team of engineers and subconsultants through the initial stages of the design build process. Tasks include technical development of the proposed concepts, preparation of schedules, budgets, progress reports in addition to billing and coordination with both internal engineers and subconsultants.

Louis Berger & Assoc PC

VINAY MUDHOLKAR

Program/Project Manager - PATH

EDUCATION

MBA; Northeastern University, Boston, Mass, 1972
M.S., Civil Engineering, Worcester Polytechnic, 1970
Advanced Engineering at Mass Institute Technology, Cambridge, Mass; US
B.S., Civil Engineering, Poona, India

PROFESSIONAL CERTIFICATIONS

American Society of Civil Engineers
American Railway Engineering Association
UK Permanent Way Institute: Fellow
Amtrak: Safety Certified
OSHA: Safety Certified
UK: Track Certified

YEARS OF EXPERIENCE: 35

EMPLOYMENT HISOTRY

Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- 2006 – Present
Amtrak; 2004 – 2005
Bechtel Limited; 2000 – 2002
Bechtel Civil Company; 1997 – 2000
Massachusetts Bay Transportation Authority; 1996 – 1997
Guilford Transportation Industry; 1970 – 1996

PROFESSIONAL EXPERIENCE:

Mr. Mudholkar has over thirty five (35) years experience in Railway industry and consulting services in management of Railway in public as well as private sector, for freight and passenger operations in US as well as international. Prior to joining consulting services for Railways, held responsible positions in Freight and Passenger Railways. Recognized in industry for innovation and successful delivery of international railway programs. Relevant project experience includes the following:

- **International Rail Programs.** Implementation of Freight and Passenger Railway Programs from design to construction to final hand-back to operator. Preparation of construction contracts, technical review of bids, recommendations to Employer and award of contracts for execution. Construction supervision and management for quality, safety and design compliance for heavy axle freight and high speed passenger service. Selection and award of Freight and Passenger Rolling stock; coordination with stake holders: public officials and private shippers. Program management, project controls and finance. Selection of Operator for operation and Maintenance of railway. Mr. Mudholkar was Technical Manager for North-South Railway Project in Saudi Arabia from 2006 to 2010. Over 6 Billion USD new railway. Freight speed: 80-100 kmh; Passenger: 200 kmh. Mr. Mudholkar also worked on the Egypt National Railway, where he conducted safety assessment study for US TDA; recommendations accepted by ENR for implementation.

- **Amtrak, New York, Philadelphia.** *Director, Construction Program Management.* Managed infrastructure improvement program for Keystone Corridor (Philadelphia to Harrisburg) to deliver speed of 200 kmh. Received recognition from Commonwealth of Pennsylvania. Managed construction programs around New York: Eastside access project and other major construction development.

- **Bechtel Limited, London, UK, Network Rail Programs.** *Principal Engineer.* West Coast Main Line upgrade for 200kmh $10 Billion US program value; provided engineering and construction management support to Client for 4 years. Management of works under heavy traffic where safety was of utmost importance. As the principal engineer of Bechtel, managed activities of multi-functional consultants, contractors for the implementation of engineering upgrades for high corridor delivery to 200 kmh. Obtained approvals of various Railway Authorities, Government agencies, Strategic Rail authority, Environmental agencies and other Public agencies.

- **Bechtel Civil Company, San Francisco, US.** *Manager Engineering, Global Rail and Transit Group.* As rail specialist, participated in winning proposals of rail projects. In US: Yucca Mountain rail development, Nevada; Alameda Corridor, LA, California; New Jersey Light Rail; Portland Light Rail, Oregon. International projects: Chile copper mine RR; Korea HS Rail; Mexico Iron ore railway; Bangalore LRT, India; Brazil rail transport plan.

- **Massachusetts Bay Transport Authority (MBTA), Boston, US.** *Deputy Director of Commuter Railway.* Responsibilities included management of Transportation, Mechanical and Engineering departments of Commuter Rail service; responsible for on-time performance, safety, capital programs etc. Management of special construction programs: Central Artery rail projects, Fleet center development at North station, Boston; Passenger engine/ coach terminal facility; freight service interface. Management of New services starts: Portland, Maine; Old Colony, Worcester line in Massachusetts; New Jersey Transit.

- **Guilford Transport Co: B&M, Maine Central, D&H Railways.** *Chief Engineer and Asst Vice President Engineering.* Managed functional engineering responsibility of 2,000 mile railway in Northeast US: Design, Construction, Maintenance, Capital Programs. Responsible for safety and operational support. Managed design and construction of projects over 500 USD. Major civil works included rehabilitation of tunnels, bridges, tracks, yards and terminals, mechanical shops; construction of facilities for shippers; installation of fiber optics and signaling works. Managed Passenger service projects: new lines and stations. Recognized by Federal Railway Administration for safety.

Louis Berger & Assoc PC

MICHAEL SOLIMAN, P.E.
Program/Project Manager - PATH

EDUCATION
B.S., Civil Engineering, New Jersey Institute of Technology, 1990

PROFESSIONAL REGISTRATION
Professional Engineer - NJ, NY

YEARS OF EXPERIENCE: 20

EMPLOYMENT HISTORY
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. – August 2010 – Present
NYC Transit, Capital Program Management - 2008 – 2010
NYC Department of Transportation - 2007 – 2008
NYCDOT, Division of Bridges - 2004 – 2007
Parsons Transportation Group - 2000 – 2004
NYCDOT, Division of Bridges - 1994 – 2000
NYCDOT, Division of Highways - 1990 - 1994

PROFESSIONAL EXPERIENCE
Mr. Soliman's experience includes Bridge/Highway Design; Design/Construction Management; Design/Build of Bridges; Project Controls; Emergency Highway/Bridge Repair; and Code Compliance. Relevant project experience includes the following:

- **NYC Department of Transportation, New York, NY.** *Assistant Commissioner – Capital Program Management & Land Use.* Mr. Soliman's responsibilities included the following: Provided executive level direction to a staff of engineering, planning, and administrative professionals in the development of the City's $1.5 billion capital reconstruction plan; Managed the Departments Land Use unit, which oversees all external use of DOT owned mapped streets, including environmental/land use applications, Board of Standards & Appeals and leases; Served as the chief agency representative with the Department of Design and Construction (DDC) in the completion of designs and the contracting for construction of DOT-funded street projects. Additionally served as chief representative with other city agencies involved in street reconstruction, including the Department of Environmental Protection (DEP), the Department of Parks & Recreation (DPR), the Economic Development Corporation (EDC), etc.; Ensured proper reporting to Federal, State, and local oversight and grantor agencies involved in street reconstruction projects; In coordination with the inter-governmental staff and the Borough Commissioners, served as the agency representative with elected officials and community groups regarding street reconstruction projects; and Prepared complex engineering reports and evaluated emergency conditions for roadways. Provided additional technical support at the direction of the Deputy Commissioner for FCPM and the Commissioner.
- **NYC Department of Transportation, Division of Bridges, New York, NY.** *Director – Manhattan and Brooklyn Roadway Bridges.* Mr. Soliman's responsibilities included the following: Responsible for overseeing the $1.25 billion capital program related to all Manhattan and Brooklyn roadway bridges and related structures; Managed all activities related to consultant supervision, contract oversight and contract management for design, construction, reconstruction and rehabilitation

projects; Provided oversight to ensure that all phases of projects were performed in accordance with City, State, and Federal rules and regulations; Reviewed structural plans submitted by private developers, governmental agencies and public utility companies; Served as a representative of the Division of Bridges on several interagency and intra-agency boards, committees and technical organizations/task forces; Performed other related engineering, administrative and managerial duties at the direction of the Deputy Chief Engineer for Roadway Bridges and Chief Engineer of Bridges; As a representative of the Division of Bridges, presented projects to community boards, elected officials, affected community groups.

- **NYC Transit, Capital Program Management, New York, NY.** *Deputy Vice President – Contract Services.* Mr. Soliman's responsibilities included the following: Oversee the Contract Services Division comprised of six units: Program Coordination, Code Compliance, Specifications, ADA, Public/Private Projects, and Contractor / Consultant Issues; Work in coordination with Procurement and Law units to resolve issues arising from capital procurements and expand the bidder's pool; Analyze complex engineering, construction and contractual information to discern the relevant issues related to the adjudication of claims brought by contractors. Advise the Senior Vice President on the pertinent technical and contractual issues and recommend a course of action for the SVP to render a determination; Ensure that capital projects are in compliance with the Americans with Disability Act (ADA) and with NYS Building Codes; Perform other related engineering, and administrative duties at the direction of the SVP.

- **NYC Department of Transportation, Division of Bridges, New York, NY.** *Director – Design Build and Emergency Contracts.* Mr. Soliman's responsibilities included the following: Developed and implemented the Division's $250 million Design Build program, including all aspects of scoping, contract development, programming, design, construction and staff management; Concurrently responsible for the initiation, procurement and, if necessary, supervision of emergency contracts within the division; Managed interactions between consultants, contractors, city agencies and community groups involved in a project. Relevant projects included the following:

  - ✓ Design/Build of Ridge Boulevard and Third Avenue Bridges
  - ✓ Design/Build Pedestrian Bridges, New York City
  - ✓ Emergency Design/Build Brooklyn Bridge Suspended Span Deck Replacement
  - ✓ Emergency Shore Road Fender Replacement
  - ✓ Saint Felix Street Emergency Forensic Engineering Study
  - ✓ Design/Build of Six Bridges over NYCT Franklin Avenue Shuttle
  - ✓ Design/Build Belt Parkway over Ocean Parkway
  - ✓ Saint Felix Street Emergency Design and Construction Phases I & II Grouting - Street Reconstruction
  - ✓ Emergency Queensboro Bridge Bulkhead Stabilization
  - ✓ Emergency West 23rd Street, Street Failure Contract
  - ✓ East 128th Street/3rd Avenue
  - ✓ 86th Street/NYCT
  - ✓ Williamsburg Bridge/East River, Structural Steel Flag Repairs
  - ✓ Avenue T/NYCT
  - ✓ Avenue U/NYCT

Louis Berger & Assoc PC

ROBERT J. THIEL P.E.
Program/Project Manager - PATH

EDUCATION
M.S., Construction Management, Stevens Institute of Technology, May 1998
B.E., Civil Engineering, Stevens Institute of Technology, May 1996

PROFESSIONAL REGISTRATIONS / CERTIFICATIONS
Professional Engineer, New Jersey, Pennsylvania, New York, Virginia, District of Columbia, Maryland, North Carolina, Florida and Michigan
Module I Value Engineering Training Workshop (2006)
Context Sensitive Solutions, 2005
Utility Design – NJDOT 2003
The new Utility Process, NJDOT 2002
Introduction to AutoCAD LDD 2002, 2002
OSHA Safety Training (10 hour), 1997

YEARS OF EXPERIENCE: 14

EMPLOYMENT HISOTRY
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- 1999 – Present
Boswell Engineering- 1996 – 1999
Port Authority of New York & New Jersey- 1995 – 1996 (Intern)

PROFESSIONAL EXPERIENCE
Mr. Thiel's experience in civil engineering design includes roadway alignment, preparation of construction contract documents for public bidding, including design of construction staging and traffic control plans. He is thoroughly knowledgeable in New Jersey Turnpike Authority (NJTA), Port Authority of NY & NJ (PANYNJ) and New Jersey Department of Transportation (NJDOT) Procedures, and the application of CAD Standards – both AutoCAD and MicroStation. Relevant project experience includes the following:

- **Port Authority of New York & New Jersey, Stage I, PATH-EWR Connection, Essex County.** *Civil Task Leader* for preliminary design of $500 million in construction. Developed the transportation component to the Lower Manhattan Recovery Effort. Particular Focus was placed on extending the existing South Street tail tracks on a new alignment between the Northeast Corridor and the McCarter Highway with multiple bridge crossings, an alignment under NJ 21, US 22, the CSX truss bridge, and I-78 with a short tunnel section under NJ Transit's Raritan Valley Line. Major considerations included the yard configuration and location, Rail Link Station, platform modifications, ROW requirements, cut and cover vs. NATM tunneling, embankment vs. structured cantilever bridges. Focus was placed on a one seat ride from Newark Liberty Airport to Lower Manhattan. The project refined the recommended alternatives from the feasibility study and the conceptual design was refined for the 2.1 mile extension of the PATH system between Newark Penn Station and the Newark Liberty Airport's Rail Link Station.
- **Port Authority of New York & New Jersey, Stage III, JFK Cargo Road Service Road Reconstruction, Phase I and Phase II, NYC.** *Civil Task Leader* for the final roadway design of new connection to JFK intermodal facility at JFK Rail Link Federal Circle Station, including temporary

connection to existing Rental Car Lane. Final design of connection between intermodal facility and existing JFK Cargo Road, including reconstruction of JFK Cargo Road and construction of a new intersection. Major considerations include ROW requirements, superelevation study for intersection with curved roadway, drainage, utility conflicts, accommodation of existing lease holders.

- **Port Authority of New York & New Jersey, Port Newark and Port Elizabeth, Essex and Union County.** *Project Engineer.* Performed traffic studies and conceptual design for various safety projects at Port Newark and Elizabeth. Performed conceptual design of realignment of North Avenue and McClester Avenue substandard roadway curve, including ROW taking study.
- **Port Authority of New York & New Jersey, WTC Parking Modifications and West Street River Water Line, NY.** *Project Engineer.* Designed layout for surface and subsurface parking facilities for the former World Trade Center in New York. In addition, the project included inspection and placement of maintenance and protection of traffic devices for the River Water Line project on West Street. Assisted in the preparation of traffic studies, traffic counts and performed level of service calculations.
- **New Jersey Turnpike Authority, Interchange 6 to 9 Widening, Preliminary Engineering and Environmental Services**. *Engineering Design Task Leader* responsible for the Preliminary Engineering and Environmental Services for 35-mile study to widen the Turnpike from six (6) to twelve (12) lanes between Pearl Harbor Memorial Turnpike Extension and Interchange 8A and from ten (10) to twelve (12) lanes between Interchanges 8A and 9. Responsible for coordination of multiple project engineers and sub-consultants in development of conceptual design and preliminary engineering with an aggressive schedule, as well as personally leading the design efforts for the Interchange 7A (Section 4), Interchange 6 and Merge (Section 1) Design Elements. Liaison with environmental, traffic engineering and public involvement tasks. Assisted the Authority in development of program approach, preliminary cost estimate and program standards.
- **New Jersey Turnpike Authority, Interchange 6 to 9 Widening, Section No. 4 Final Design, Interchange 7A**. *Deputy Project Manager (8/07-1/2010); Project Manager (1/2010-Present)* for the 2.3-mile segment of the Widening Program that reconfigures Interchange 7A. This section includes all ramp connections and mainline widening for connections with Interchange 7A and Route I-195 including expansion of the existing toll plaza from 10 to 13 lanes. Section No. 4 also includes the construction and/or replacement of 13 bridge structures, retaining walls, sign structures and noise barriers. Mr. Thiel recently ascended to Project Manager for this project in January 2010.
- **New Jersey Turnpike Authority, Secaucus Interchange, Final Design Documents for Section 3, Phase B/C/D.** *Project Engineer* for the new interchange near the Secaucus Transfer Station in the Meadowlands. The critical issues associated with this section are: the structural design of the various structures; coordination with NJ Transit and Seaview Drive (being designed by others); identification of site access for construction; and establishing a design that is compatible with future transportation improvements under consideration by the NJDOT for the connection to the Bergen Arches, Tonnelle Avenue and/or other roadways.
- **New Jersey Department of Transportation, Route U.S 9, Section 1M, Edison Bridge Rehabilitation, Middlesex County.** *Project Engineer* for final scope development, initial and final design and construction support to reconstruct the historic Edison Bridge over the Raritan River. This high level fixed structure consists of 29-spans with total length of 4280 feet. The facility will be the new northbound roadway for Route 9. Extensive staging and coordination was required on each side of the bridge. This $43 million construction project resulted in a client commendation letter for a quality of service and acceleration of schedule.

Louis Berger & Assoc PC

KEN FAVARO

Program/Project Manager – Ports/Commerce

EDUCATION

Masters, City and Regional Planning, Urban Design, Rutgers University, 2009
B.A., City Planning & Political Science, Rutgers University, 1977

HISTORY OF EMPLOYMENT

The Louis Berger Group, Inc. - March, 2009 – Present
RM Hospitality Group – DBA Rosa Mexicano – September, 2006 – October, 2008
NY Waterway/ Arcorp Properties, Inc. - May, 1984 – September, 2006
Bergen County Planning Board – September 1977 – May 1984

YEARS EXPERIENCE: 33

PROFESSIONAL EXPERIENCE

- **Brooklyn Terminal Pier Reconstruction – Port Authority of New York and New Jersey.** *Senior Construction Inspector – Marine, Brooklyn, NY.* Responsible for monitoring the activities of the marine construction contractor including repairs and rehabilitation of the piles, structural repairs to existing piers and bulkheads. This is a commercial terminal where cargo loading and unloading is performed and transfers to trucking operations occur. Reviews materials and contractor's means and methods for compliance with specifications and confirms that the installations are performed in accordance with plans and specs. Reviews the contractor's water quality control during construction, including the integrity of turbidity curtains and other environmental controls. Also responsible for review for compliance with OSHA guidelines and safety.
- **RM Hospitality Group – DBA Rosa Mexicano.** *Director of Construction*, New York, NY. Served as Company Director, responsible for the construction of new restaurants and the upgrades of a total of then restaurants in New York City and along the Eastern seaboard with total annual sales of $55 Million. Pertinent Construction Management skills included: ability to secure all required permits in a complex regulatory environment; design, scheduling, and construction of 3 units per year; selection of General Contractors; value engineering; preparation of job cost estimates developed through blue print take-offs and contract/labor negotiations; development of capital expense and repair and maintenance budgets; generation and management of job schedules and task coordination time lines; negotiation of repair and maintenance (R&M) contracts with all mechanical and service contractors, including scope of work, schedule and price, which resulted in zero increase in cost of R&M contracts during the time managing this task (2007-2009 contracts); implementation of warranty procedures and protection; drafting O&M manuals written with emphasis on safety procedures and compliance with OSHA requirements; and review of leases for compliance with Landlords' requirements relative to tenant responsibilities for shell improvements and maintenance.
- **NY Waterway / Romulus Development Corp. / ARCORP Properties, Inc. / Port Imperial Marina / Drydock Corp. / New York Splash Tours.** *Director of Construction,* Weehawken, NJ.

- **NY Waterway.** Responsible for permitting, design, construction and maintenance of 37 ferry terminals / maintenance facilities. Responsible for the procurement of all regulatory and environmental permits from: Army Corps of Engineers, Section 10 Permits (Rivers and Harbors Act) and Section 404 Permits (Clean Water Act); NY Department of Environmental Conservation (Waterfront Development Permits); and the NJ Department of Environmental Protection (Waterfront Development Permits / CAFRA Compliance). Specific construction and environmental related issues reviewed by the Federal and State agencies include: demolition and removal of debris posing potential hazard to navigation; dredging and dredge spoils remediation; installation of turbidity curtains / environmental controls during construction; pile driving / bulkhead and breakwater construction; water quality control; conformance with seasonal construction and dredging windows; shoreline stabilization / erosion control.
- **WTC Terrorist Attack Action and Construction.** Directed Ferry activity during the emergency evacuation of approximately 180,000 people fleeing NYC using all fleet vessels after the WTC attacks. Immediately identified the locations for new and relocated upgraded ferry terminals in the NY Harbor as described in the Ferry Project List. Worked closely with the Army Corps of Engineers and other Federal, State and Municipal Agencies to fast track plans to expedite construction and/or relocation of these ferry terminals to meet commuter needs due to the closure of major train tunnels.
- **International Naval Review 2000.** Had direct interface with the commander of the Naval Supply Corps, relative to the installation of ferry berthing facilities throughout the NYC Harbor to transport naval personnel, dignitaries and invited public to board and tour the JFK Aircraft Carrier, USS Whitney, and the USS Nassau. Worked closely with the Naval Purchasing Department and captains of the above mentioned ships to field inspect, design and install intricate floating berthing facilities to accommodate NY Waterway Ferries transporting guests and crew to the three ships moored in the NYC Harbor to celebrate the International Naval Review 2000. Project cost: $3.5 Million.
- **MTA Transit Strike.** Directed the fast track installation of six temporary ferry terminals in the NYC Harbor to handle increased commuter demand generated by the 2000 MTA transit strike. Project cost: $1.5 Million.
- **Romulus Development Corp. / Arcorp Properties, Inc.** Shoreline stabilization or bulk heading of approximately 2 miles of the Hudson River waterfront. Filling and grading of approximately 300 acres of waterfront property in preparation for development. Construction of approximately three miles of road. Construction of 2,000+ stall ferry parking lot, automated access control systems and parking lot office. Conversion of the existing Company's corporate offices and ferry and bus maintenance facility including OSHA compliant fueling depot and body/paint shop. Construction of a 305 slip full service Marina. Installation of site infrastructure including electric, power, water, fiber optic and phone/data. Construction of fine dining restaurants including Arthurs Landing, Spirito Grill and Arthurs Downtown. Also constructed Cafes at most of the Ferry Terminals. Served as Owner's Representative to upland mixed use development in a joint venture with Roseland Development Corp., including high-rise/condo/rental residential, hotel-conference center, and retail and office space. Worked closely with regulatory agencies to comply with environmental remediation requirements prior to construction.

Louis Berger & Assoc PC

MICHAEL J. DONOVAN, P.E.
Program/Project Manager – World Trade Center

EDUCATION
MS, Civil Engineering, Georgia Institute of Technology
MA, National Security and Strategic Studies, U.S. Army War College
BS, Civil Engineering, Clarkson College of Technology

PROFESSIONAL CERTIFICATIONS:
Registered Professional Engineer, Commonwealth of Virginia

PROFESSIONAL AFFILIATIONS
American Society of Civil Engineers
Society of American Military Engineers, Life Member
Army Engineer Association, Life Member
Association of the United States Military

YEARS OF EXPERIENCE: 20

HISTORY OF EMPLOYMENT
The Louis Berger Group, Inc Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. – 2008 - Present
Assistant Secretary of the Army (Civil Works), Washington, DC – 2005- 2008
Operations Officer – Gulf Region Division, Corps of Engineers, Baghdad, Iraq – 2004-2005
Commander – 479th Engineer Battalion, Fort Drum, NY – 2001-2004
Deputy Chief Of Staff – 10th Mountain Division, Fort Drum, NY – 2000-2001
Executive Officer – Engineer Brigade, 1st Armored Division, Germany – 1999-2000
Operations Officer – Deputy Chief of Staff, Engineer, Heidelberg, Germany – 1998- 1999
Executive Officer – 82nd Engineer Battalion, Germany – 1997-1998
Deputy District Engineer, New York District, Corps of Engineers – 1995 -1996
Project Engineer – Corps of Engineers, West Point, NY – 1994-1995
Leadership positions of increasing responsibility and technical skills, including assignments with underwater construction, topographic and horizontal construction units. Instruction experience – Navy Diving and Salvage School – 1982-1994

PROFESSIONAL OF QUALIFICATIONS
Mr. Michael Donovan possesses over 20 years of experience as a senior Army officer managing diverse engineering organizations both in the United States and abroad. He is an experienced planner and administrator/leader with a focus on innovative problem solving, customer satisfaction and quality. Mr. Donovan has demonstrated success working with high-profile Congressional, Federal, state and local officials. He also possesses strong problem solving and consensus building abilities and has excellent computer and communication skills.

Executive Leadership / Organizational Leadership and Management

- Communicated extensively and frequently with a wide array of customers, stakeholders, and

project partners. Routinely interacted with the Executive Office of the President, Members of Congress, Federal and state officials, and industry experts.

- As Operation Officer for the Corps of Engineers reconstruction effort in Iraq, built and maintained a good working relationship with all military commands, Project Contracting Office and United States Agency for International Development. This relationship enabled the Corps and all stakeholders to successfully coordinate the myriad of complex issues associated with the $21B+ reconstruction program throughout Iraq.
- Mediated a group of contractors, designers, and users in order to surface and analyze difficult installation and test problems on a critical test facility at the U.S. Army Natick Soldier Research, Development and Engineering Center. Avoided litigation and allowed for critical design changes and project completion.

Program and Project Management

- Monitored and updated reporting procedures for over 3,000 projects ($11.4B) throughout Iraq in support of the Iraqi Relief and Reconstruction Fund and Accelerated Iraqi Reconstruction Program projects throughout Iraq. Worked closely with the Project Contracting Office and the State Department to ensure proper and accurate construction progress reporting throughout a highly volatile Iraq.
- Managed the construction management, contract administration and quality assurance for a major $23M dining facility renovation (earning Corps partnership award), packaged water treatment plant, pedestrian bridge over a New York City commuter route, and environmental restoration projects at West Point.
- Managed an annual military construction and environmental remediation program the resulted in the award of over $350M in projects. Program included upgrade of barracks at West Point, new ranges at Fort Drum, test facilities at Picatinny Arsenal and Natick Labs, runway expansion at McGuire AFB and update of facilities in Thule, Greenland. Demonstrated sophisticated management skills by focusing the organization's engineers, real estate specialists and contracting specialists to better support a number of closing installations and their surrounding communities.
- Coordinated the master planning for U.S. Army facilities in Macedonia. Analysis and planning enabled the improvement of Soldier billets, force protection and upgrades to utility systems during an extremely turbulent period in the region.

Resource and Staff Management

- Executive Officer for the Assistant Secretary of the Army for Civil Works, maintaining policy level oversight of the Corps of Engineers $5.3B civil work program and worldwide work for other programs. Responsible for the flow of information and requirements among the Executive Office of the President, Congress, the Corps of Engineers as well as national and local stakeholders.
- Planned and executed logistical support for extended construction missions in Panama and Honduras. Managed construction, underwater salvage and well drilling operations throughout South and Central America.
- Developed and executed annual operating budgets ranging from $2M to $8M for organizations that ranged from 25 to 1,000 employees.

Louis Berger & Assoc PC

JASON BROWN

Program/Project Manager – World Trade Center

EDUCATION

Bachelor of Arts, Political Science, Kansas State University, 1992

TECHNICAL SKILLS

@ Risk, Contract Manager, Microsoft Office, Master Builder Accounting, Pertmaster, Primavera 6.0, Primavera Project Planner, Primavera SureTrak, Prolog

HISTORY OF EMPLOYMENT

Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.– Sept. 2008 – Present
Jacobs Engineering Group/Carter & Burgess – Janaury 2004 – September 2008
Stonewall Contracting Corp. – October 1999 – December 2003
The Mackroyce Group – February 1996 – September 1999
Energy Efficiency Services, Inc. – June 1994 – January 1996
Stelle & Associates – October 1993 – January 1995

YEARS EXPERIENCE: 17

PROFESSIONAL EXPERIENCE

Mr. Brown possesses approximately 17 years of experience in senior level project and program management positions for over $20 Billion in design and construction projects. He has substantial additional experience including contract controls and information technology systems. Sectors of project oversight include transportation, commercial, educational, financial, hospitality, medical, and municipal.

- **Downtown Restoration Program, Port Authority of New York & New Jersey, New York, NY.** *Senior Program Scheduler.* Functional lead for the development and implementation of a unified multi-platform system to manage budget, cost and schedule towards World Trade Center Redevelopment and the PANYNJ Capital Plan. Chief responsibility for management and oversight of the National September 11th Memorial Museum; including a comprehensive re-baseline effort at inception to ensure acceptable resource planning and production rate levels could be maintained towards project completion. Design and implementation of a production-based system for monitoring progress and concerns towards the successful completion of Master Development Agreement Milestones established between PANYNJ and Silverstein Properties; as well as Federal Transportation Administration milestones and other key sitewide deliverables. Comprehensive program modeling for Risk Assessments and analysis. Liaising with Program and Construction Management teams regarding overall program scheduling and planning, cost and schedule maintenance and mitigation efforts, claims avoidance techniques and solutions, and construction logistics planning. Reviewing Construction Manager, General Contractor, and Subcontractor schedules for validation, coordination and acceptance purposes. Issuing monthly status reports, schedule analyses, and "what-if" scenarios and solutions.
- **FTA Project Management Oversight: Lower Manhattan Recovery Organization, World Trade Center PATH Terminal and Vehicle Security Center, New York, NY.** *Construction Manager.* Provide oversight and guidance to the Port Authority of New York and New Jersey regarding the design and construction of these two programs; and within the larger World Trade Center Redevelopment Program. Participate in constructability reviews, schedule and estimate

reconciliation workshops, and develop solutions towards the prompt and efficient completion of the programs. Identify, define and assess potential program risks and impacts; offer mitigation strategies and monitor implementation and success. Direct coordination with scheduling and project management staff for CPM scheduling methods, cost control, earned value analysis, claims avoidance, and risk mitigation techniques. Monitor construction progress to determine adequacy of performance with regards to cost, schedule, quality, and planning. Execute forensic and analytical reviews of engineering and construction schedules to determine compliance with Project Management Oversight Guidelines. Participation in the development of CM/GC and other contract documents to ensure compliance with Federal Acquisition Regulations and minimize the potential for disputes and claims. Monitor, assess and participate in the development of Site Safety policies and protocols.

- **Washington Dulles International Airport, 4th Runway Final Design, Washington, DC.** *Senior Scheduler / Cost Analyst.* Provided detailed design and construction schedules; as well as quantitative and qualitative oversight and review of engineers' estimates for each of four primary design and construction packages including: earthwords, paving, transitions, and navigational aid systems. Performed monthly schedule updates, including earned vale measurement, resource utilization and forecasting, and cost-to-complete analyses. Determined areas of schedule slip and developed and implemented alternative means of achieving critical contract milestones. Evaluated design-milestone construction cost estimates and provided contractor pricing support. Reviewed design documents and performed constructability analyses for cost and schedule reconciliation efforts.
- **University of Chicago, West and South Campus Combined Chiller Plants, Chicago, IL.** *Senior Cost / Schedule Analyst.* Developed overall program schedule from inception through closeout for the design and construction of two new combined chiller plants and central utility corridor. Reviewed design documents towards developing a staging and logistics plan which supported the prompt construction of the two plants and corridor while maintaining compliance with all city requirements and minimizing impacts to campus operations. Reviewed and monitored both Construction Manager and General Contractor CPM schedule submissions. Developed work around schedules where delays became evident to support the completion target date established by the University.
- **Project Management System, New York, NY.** *Project Manager.* Participated in development, implementation and training for a proprietary project controls system, designed to integrate corporate project schedules with existing timekeeping system to improve project and profitability. Conducted multi-office interviews to determine needs and constraints across multiple client types. Trained corporate project management staff in system principles, techniques and utilization.
- **Various Projects, College Point, NY.** *Senior Project Manager.* Direct P&L responsibility for all public sector projects including transportation, education, and municipal facilities for a combined value exceeding $150 Million over four years. Responsible charge for oversight, management and guidance of a twenty-person project management and supervision team across multiple concurrent projects. Led estimating, contract and project management efforts; including guidance and direction on constructability and change resolution issues; staging and logistics plans; and, client and subcontract management techniques and practices. Negotiation and award of all subcontracts, including adjudication and negotiation of all change order requests. Review and approval of all subcontractor and supplier payments.

Louis Berger & Assoc PC

JOSEPH A. CADILLAC
Program / Project Management

EDUCATION
B.S., Business Administration, Cum Laude, Ramapo College of New Jersey, 2001

PROFESSIONAL REGISTRATION
New Jersey Real Estate License

PROFESSIONAL MEMBERSHIPS
Delta Mu Delta – National Business Honor Society
AACE – The Association for the Advancement of Cost Engineers

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. – April 2007 – Present
Washington Group International (formerly Raytheon Engineers & Constructors, (RE&C) Princeton, NJ – 21st Century Rail Corporation – 1990 – April 2007
Classic Properties – 1986 – 1990
Ten Cees, Inc. d/b/a/ Garden Motor Inn – 1975 – 1986
Burlington Northern Air Freight – 1973 - 1975

YEARS EXPERIENCE: 10

PROFESSIONAL EXPERIENCE
Mr. Cadillac is a is a senior executive with over 24 years of successful, progressive experience leading and managing engineering and construction programs. He has had successful experience in design, programs and budgets, leading teams, managing contracts and conducting multi-level negotiations. He has demonstrated executive competence in quickly identifying key issues and developing innovative strategies. An innovator having special expertise in project controls and cost management, strategic planning, start-ups and entrepreneurial environments, building and managing effective operations-oriented teams, and designing and directing project evaluation and development processes and systems. Projects include process, power, commercial and infrastructure facilities. He has achieved increasingly responsible levels of corporate, program and project management assignments on engineering/procurement/construction (EPC) projects. Responsibilities within project management include all elements of project control including planning and scheduling, project cost reporting and forecasting, financial trends and projections as well as resource management.

- **PANYNJ Downtown Restoration Program – World Trade Center, New York, NY.** *Deputy Program Manager* **(Manager of Project Controls).** Executive position reporting to Consulting Program Manger, PA Assistant Director and Project Director. Managing, developing, and delivering a cross functional team for this world class marquee project. Responsibilities include key interfaces with client project executives, program managers, and a myriad of stakeholders including the FTA. This position involves the daily operational management of the Program Project Controls Team addressing scope, schedule and budget issues and evaluating the ongoing project conditions along with providing problem resolution analysis with Client Operations Management. In addition the LBG team provides program support services including document

control and record management, general and communications services. The LBG WTCC team also includes the firms of Hill International, Stellar Services, Team Support Services, MAST Construction Services, Merritt Construction Services, STV and HNTB.

Achievements: Developed of a comprehensive cost database system to track the $16 Billion program development.

- **Hudson-Bergen Light Rail Project – Client New Jersey Transit.** *Project Controls Manager.* An outstanding record of managing, developing, and delivering a cross functional team approach to cost and progress measurement systems for Home Office and field projects. Responsibilities include key interfaces with client project cost & schedule controls management teams and the evaluation of ongoing project conditions with Corporate Operations Management. In addition, cost and scheduling, cash flows and project financial analysis, supervising the preparation of all executive summary reports, trouble shooting and training personnel in maintaining all corporate procedures. Report to Corporate CEO and Product Line Presidents.

Achievements:

- 2003 Lions Award Recipient for Performance Excellence.
- Developed a comprehensive invoicing program that generated double-digit positive cash flow.
- Mastered Cost Control Programs and systems. Streamlined process integrating multiple applications, resulting in a 20% increase in productivity and demonstrable increase in cash flow.
- Developed retrospective analysis format, which has become corporate standard.
- Developed and implemented the conversion and training of all personnel on five on going projects to new financial reporting systems and procedures in record time with minimum disruption to the projects.
- Contributed to the development of the Corporate Standard Structure and Procedures Manual.
- Developed Corporate Software Procedure Manual for Proprietary Application.
- Mastered the successful linking of multiple software programs to eliminate redundant entries.
- RAYTHEON SIX SIGMA SPECIALIST Training

Partial listing of Project Experience:

- Hudson Bergen Light Rail Project - ($1.4 Billion) New Jersey Transit, Jersey City, NJ
- Merck Ballydine Pharmaceutical Expansion Project ($211 Million) Ballydine Ireland
- Umatilla Chemical Weapons Demilitarization Plant ($262 Million) Umatilla Oregon.
- PP9 (1000 Mega Watt) Combined Cycle Power Plant Project ($350 Million) Kingdom of Saudi Arabia
- Tangshan Coal Fired Power Plant (300Mega Watt) ($280 Million)Tangshan China
- Uch Power Plant (100 Mega Watt) ($160 Million) Uch Pakistan
- Independence Facility (1000 Mega Watt) Combined Cycle Power Plant ($517 Million), Oswego, NY.
- Ogden Martin Waste to Energy Facility, (20 Mega Watt) Lee County, Fl ($28 Million).
- Harry Allen Power Project, Las Vegas, NV Simple Cycle Energy Project.
- Brandywine Cogeneration Project (230 Mega Watt), Brandywine MD Simple Cycle Energy Project.
- Gordonsville Peaker Plant, (240 Mega Watt) Gordonsville, VA. ($140 Million)
- Exxon Bayway Project,(614 Mega Watt) Linden, NJ.($339 Million)
- Schering Plough Cogeneration Facility(28 Mega Watt), Kenilworth, NJ($26.4 Million)
- Marcal Paper Cogeneration Facility (60 Mega Watt), Elmwood Park, NJ($43.2 Million)

Louis Berger & Assoc PC

STEVEN BALWIN
Specialist - Aviation

EDUCATION
MPA, State University of New York
B.S., Air Commerce, Florida Institute of Technology, 1981

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- August 1996 – Present
New York State Department of Transportation – 1982 – 1996
New York State Office of Regulatory Reform – 1980 - 1982

YEARS EXPERIENCE: 29

PROFESSIONAL EXPERIENCE
Mr. Baldwin is responsible for the firm's domestic aviation practice. Mr. Baldwin specializes in airport planning and design. He maintains a strong emphasis on aviation/airport related economic development planning performed in a multi-modal setting and also providing management and financial feasibility support to airport operators.

Mr. Baldwin served 14 years in the New York State Department of Transportation's Aviation Division where he was primarily responsible for the activities involved with the development and management of Stewart and Republic Airports. Additionally, he served for two years as Assistant Deputy Director of the NYS Office of Regulatory Reform. Here, he provided high-level decision-makers policy advice regarding regulatory proposals submitted by various state agencies, including matters related to aviation.

- **Port Authority of New York & New Jersey, Newark Liberty International Airport, Terminal A Redevelopment.** As the Principal-in-Charge for the PFC-funded Terminal A Redevelopment Program at Newark Liberty International Airport, Mr. Baldwin is responsible for the performance on-site in an extension-of staff role, he leads a group of 12 staff planners and engineers and 10 sub-consulting firms in developing an airport-wide terminal-area plan for the capacity-constrained facility. The effort has encompassed forecasting, determining future needs, assessing the role of future technologies, developing the business plan, sustainable development and environmental planning, and project design through schematics.
- **Port Authority of New York & New Jersey, Redevelopment Program, Newark International Airport.** Mr. Baldwin served as the Principal-in-Charge for the Port Authority of NY & NJ's Redevelopment Program where he was responsible for overseeing all aspects of the planning, design and construction of Continental Airlines' expansion of Terminal C at Newark International Airport. The work, exceeding $620 million in development costs, included the modifications to the existing Terminal to incorporate a new, at-grade, arrivals and multiple departures levels, as well as the construction of a new C3 concourse, 1,500 passenger/hour Federal inspection facility, a 134-foot operations control tower, expansion of the existing terminal over the airside restricted service road resulting in a double-height airside corridor connecting all three concourses, and the construction of a new outbound baggage handling facility.
- **Terminal B Modernization Program.** *Newark International Airport.* Mr. Baldwin currently

performs the duties of Principal-in-Charge for the Port Authority's Terminal B Modernization Program. In this capacity, he is responsible for overseeing the t transformation of the existing mid and upper departures levels of the facility, as well as the expansion of the existing meter-greeter hall. The current scope of the program calls for the relocation of the domestic baggage claims facilities to a new lower level, shifting domestic ticketing to the mid-level and devoting the upper level to international departure ticketing. On the upper level, the existing ticketing positions and baggage belts will be pushed back from their current locations resulting in enlarged queuing areas and increasing the total number of international ticket counters by capturing the positions currently used for domestic departures. "Back-of-house" airline office space will be relocated to newly created mezzanine areas constructed above the new international ticketing counters. Similarly, the domestic baggage claim area on the mid-level will be relocated to the newly created lower level freeing up space to accommodate up to sixty additional ticketing positions with ample room for queuing in front of the counters.

- **Newark Liberty International Airport Continental Global Gateway Program.** As Project Director, Mr. Baldwin led the planning efforts for the Continental Global Gateway Program including the redevelopment of Terminal C. Program services included landside and airside planning, terminal area planning, Remain Overnight (RON) aircraft parking analysis, the evaluation of vehicular parking alternatives including structural parking alternatives at EWR, project financing and airline lease negotiation support to the General Manager's office.

- **Port Authority of New York & New Jersey, Planning Studies.** Mr. Baldwin has served as *the Project Director or Principal-in-Charge* for the development of a number of the Authority's most recent planning initiatives including the development of the PANYNJ's "Issues and Options" papers for EWR and TEB; LaGuardia Part 77 obstruction analysis; the Development of the most recent PFC application for JFK, LGA and EWR; LaGuardia Runway 13 Approach Study; JFK ILS Benefit Cost Study; JFK Hotel Site Selection Study; LaGuardia Regional Jet Impact Analysis; JFK, LGA, EWR Parking Rate and Capacity Study, and several others.

- **Benefit Cost Analysis, Delay Reduction Strategy Study, John F. Kennedy International Airport, NY.** *Principal-in-Charge* in completing the Benefit Cost Analysis on the selected alternatives for this study. This study analyzed the airports' physical and operational constraints associated with aircraft delay. A combination of simulation analysis using the Total Airspace and Airport Modeler (TAAM) and other analytical tools were used to define delay savings for each identified possible improvement at each airport. Order of magnitude cost estimates for each improvement were developed and were used in concert with the identified delay savings in the benefit cost analysis for the improvements.

- **Benefit Cost Analysis, Delay Reduction Strategy Study, LaGuardia Airport, NY.** *Principal-in-Charge* in completing the Benefit Cost Analysis on the selected alternatives for this study. This study analyzed the airports' physical and operational constraints associated with aircraft delay. A combination of simulation analysis using the Total Airspace and Airport Modeler (TAAM) and other analytical tools were used to define delay savings for each identified possible improvement at each airport. Order of magnitude cost estimates for each improvement were developed and were used in concert with the delay savings in the benefit cost analysis for the improvements.

Louis Berger & Assoc PC

COSEMA (CONNIE) CRAWFORD, P.E.
Specialist - Transit

EDUCATION
M.S.E., Princeton University, 1981
B.S.E, Princeton University

PROFESSIONAL REGISTRATION
Professional Engineer - NY

PROFESSIONAL ASSOCIATIONS
American Society of Civil Engineers
American Public Transportation Association
Women's Transportation Seminar
The Moles
Construction Management Association of America

YEARS OF EXPERIENCE: 30

EMPLOYMENT HISTORY
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - 2009 – Present
MTA New York City Transit - 2001 – 2009
Parsons Transportation Group - 1999 – 2001
New York City Department of Transportation - 1997 – 1998
Steinman Boynton Gronquist & Birdsall - 1981 – 1997

PROFESSIONAL EXPERIENCE
Ms. Crawford has 30 years of experience with the public and private sectors in the management, design and construction of large scale transportation programs. Relevant project experience includes the following:

- **MTA-New York City Transit, Corona Rail Maintenance Shop, New York, NY.** *Chief Engineer* responsible for design/build construction of a new LEED certified rail shop serving the NYC Transit Flushing Line, with interior capacity for five 600' long trains, and featuring photovoltaic panels, fuel cells, natural ventilation and lighting, and use of harvested and recycled rainwater.
- **MTA-New York City Transit, Bleecker Street Station, Passenger Transfer and ADA Accessibility, New York, NY.** *Chief Engineer* responsible for rehabilitation design and construction of the landmark Bleecker Street Subway Station in Lower Manhattan, including the construction of a new underground transfer connection to the Lafayette Street Station, and the installation of five elevators and other accessibility components to bring the station complex into compliance with the Americans with Disabilities Act (ADA).
- **MTA-New York City Transit, South Ferry Terminal Station, New York, NY.** *Chief Engineer* responsible for owner's review and acceptance of design and construction of a new underground two track subway terminal station in Lower Manhattan. The new station alignment involved underpinning three active subway tunnels.

- **MTA-New York City Transit, Rockwell Place Ventilation Facilities, Brooklyn, NY.** *Chief Engineer* responsible for the $55 million rehabilitation of two vent plants at Lafayette Street on the Fulton Street Line in Brooklyn for emergency smoke removal on two subway lines.
- **MTA-New York City Transit, Grand Avenue Central Maintenance Facility and Bus Depot, New York, NY.** *Chief Engineer* responsible for design/build construction of the $263 million combined central maintenance facility and bus depot in Maspeth, Queens. The depot provides the ability to maintain and upgrade all types of fleet vehicles, and is designed to adapt to new technologies.
- **MTA-New York City Transit, Stillwell Avenue Terminal Station, Coney Island, NY.** *Chief Engineer* responsible for reconstruction of a major above ground station serving four subway lines in Coney Island. The arched glass roof, one of world's largest for a transit facility, is formed of photovoltaic panels providing 250 kW of power to the station.
- **New York City Department of Transportation, Brooklyn Bridge, New York, NY.** *Chief Engineer* responsible for design/build emergency deck replacement and realignment of Manhattan approach. Project Engineer for rehabilitation of main cables and replacement of suspenders and cable stays.
- **MTA-New York City Transit, Fulton Street Transit Center, New York, NY.** *Chief Engineer* responsible for owner's review and acceptance of design and construction of a $1.4 million major Lower Manhattan station complex serving twelve subway lines and 275,000 riders to improve circulation and safety.
- **MTA-New York City Transit, Transit Police Precinct Buildings, Coney Island, NY.** *Chief Engineer* responsible for design and construction of new Transit Police Precinct buildings in Coney Island, Brooklyn and the Rockaways, Queens.
- **MTA-New York City Transit, 207th Street Rail Maintenance Shop, New York, NY.** *Chief Engineer* responsible for major rehabilitation and upgrade of the 207th Street Rail Maintenance Shop in New York, NY.
- **MTA-New York City Transit, 38th Street Rail Maintenance Shop, New York, NY.** *Chief Engineer* responsible for design and construction of mechanical and electrical upgrades at the 38th Street Rail Maintenance Shop.
- **MTA-New York City Transit, Communications Based Train Control Signaling (CBTC) on the Canarsie (L) Line, New York, NY.** *Chief Engineer* responsible for installation of a CBTC signaling system, including the development of new standards for interoperability specifications to accommodate the flexible multi-track NYC Transit network. CBTC will improve throughput, safety and control. Also provided installation and interface with public address customer information screens (PA/CIS) to relay train arrival times to customers.
- **MTA-New York City Transit, Culver Line Rehabilitation, New York, NY.** *Chief Engineer* responsible for rehabilitation design and construction of a mile long elevated concrete-encased viaduct, including deck and structural steel repairs, new track, and replacement of a major interlocking.

Louis Berger & Assoc PC

JAMES J. MURRAY, P.E.
Specialist - FTA

EDUCATION
B.S.C.E, New Jersey Institute of Technology

PROFESSIONAL REGISTRATIONS
Professional Engineer, New Jersey
Professional Planner, New Jersey (inactive)

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. – Sept. 2005 – Present
Gannet Fleming – 2004–2005
Parsons Transportation Group – 1986–2004

YEARS EXPERIENCE: 30

PROFESSIONAL EXPERIENCE
Mr. Jim Murray is a Project Manager and Professional Engineer with thirty years of increasing responsibility on widely diversified transportation infrastructure projects, including both highway and transit, for a variety of city, state and federal transportation agencies in the greater New York Metropolitan area. Project work includes feasibility studies through final design and construction, with estimated construction costs exceeding $1 billion, for clients including PANYNJ, NYSDOT, MTA NYCT, MTA LIRR, NYCDOT, NJDOT, NJTA and NJHA. Managed contract negotiation, planning, scheduling, project controls, supervision and financial performance as well as business development. Technical skills include planning, analysis, design, specifications and estimates for highway and transit projects.

- **Port Authority of New York and New Jersey, WTC Transportation Hub, New York, NY**. Provided Assistant Program Manager services including the resolution of cost, schedule, process, quality and reporting concerns, as well as strategies and managing FTA and related issues. Accomplishments include: Prepared monthly WTC Program status reports on design, construction, budgets, forecasts, schedules, coordination, agreements, risks, etc.; Prepared the WTC Transportation Hub FTA Construction Agreement and grant actions; Monitored project FEIS / ROD / MOA compliance including historic elements, archeological treatment plans; prepared documents for consulting party review, public newsletters, design change justifications, construction and resource protection plans; Coordinated the preparation of FTA deliverables including project cost and schedule; Major rewrite of the Program Management Plan and design and configuration control procedures.
- **City Island Bridge Value Engineering Study.** *Lead Civil Engineer*. Reviewed the civil / highway aspects of a proposed replacement of the City Island Bridge with a cable-stayed bridge option for NYCOMB. The project included development, review and presentation of a number of alternatives for structure types, alignments, utility impacts and construction methods.
- **Cross Bronx Expressway Signing and Lighting.** *Project Manager*. The project included construction of sign structures and roadway lighting for NYSDOT on portions of the Cross Bronx Expressway, Hutchinson River Parkway and Bruckner Expressway.
- **Traffic Engineering and Design.** *Project Manager*. Miscellaneous task order assignments for

NYCDOT including pedestrian and safety improvements on Atlantic Avenue, Brooklyn and Queens, safety improvements on Hylan Boulevard, Staten Island. Work included traffic data collection, surveys, alternatives analysis and conceptual design. Prepared Primavera Suretrak schedules and Excel spreadsheets for project management.

- **Route 9A Program Management and Coordination.** *Deputy Project Manager*, PMC² JV. Provided program management and coordination services to NYSDOT for the reconstruction of Route 9A adjacent to the World Trade Center. The project included bypass tunnel and at-grade alternatives with a total cost of approximately $1 billion. Responsible for coordination of project elements with adjacent projects including the PANYNJ for the WTC site and permanent PATH Station, and the MTA for the Fulton Transit Center and South Ferry project, as well as public and private utilities affected by the project. Wrote procedures for NYSDOT to coordinate Route 9A work with external partners, targeting levels of responsibility for decision making within the NYSDOT team. Coordinated Route 9A work with PANYNJ projects, focusing on issues such as ventilation, security, and construction phasing and estimates. Coordinated the design and construction schedule for the work of the NYSDOT design teams and with external parties. Prepared Primavera (P3) project schedules and developed standardized management reports. Coordinated computer visualization efforts and prepared document control procedures. Utility coordination included meeting with stakeholders, Con Ed, ECS, Verizon, NYC DEP and others, to identify needs and concerns of all parties, with the goal of streamlining the utility construction necessary to facilitate the Route 9A reconstruction.

- **East Side Access to Grand Central Terminal.** *Deputy Director, Systems Design*. On LIRR's project to construct a $6.3 billion tunnel into Grand Central Terminal, responsible for coordinating designs for power, communications, signals, fire life safety and mechanical designs with heavy civil and structural designs. Responsibilities included identifying and tracking systems design elements to ensure integration with facilities and tunnel designs both in terms of design schedules and design responsibilities with the Tunnel Engineer, as well as the spatial integration of construction. Prepared Primavera (P3) project schedules to validate the master schedule and verify interfaces between the Systems and Tunnel Engineering teams. A significant accomplishment included writing a space allocation plan for the tunnels and ancillary spaces for railroad and support utilities, culminating in a detailed presentation of the report to the engineering department. The allocation plan included traction and facility power, communications, signals, fire suppression and life safety, and facility power and HVAC. The required facilities included space for conduit and pipe, splice chambers for the distribution systems as well as the sizing of the facility rooms themselves, and developed a database for the tracking and management those spaces. As a quality management function, created a CAD drawing set to establish a regimented way to investigate interdisciplinary interfaces. Coordinated the contract packaging and estimating of systems contracts, including trending changes to scope and construction cost.

- **LaGuardia Airport Subway Access.** *Design Manager, Infrastructure and Systems Engineering*, HDU JV. On behalf of NYCT, provided conceptual design and evaluation of new transit service options to LaGuardia Airport, including N Line subway extension. Responsibilities included preliminary track alignments, construction methods, impact assessments, and coordination of engineering and architectural disciplines. Special requirements of the project included coordination with the PANYNJ for reviews of possible above grade and underground construction on and adjacent to the airport.

Louis Berger & Assoc PC

FREDRICK McCARTHY, P.E.
Specialist - Security

EDUCATION
B.E., Civil Engineering, Manhattan College, 1983

PROFESSIONAL REGISTRATIONS
Professional Engineer - NJ, NY, PA, DE, RI and FL
OSHA HAZWOPER 40-Hour Health and Safety Training
8-Hour OSHA Supervisor Training
NJ DEP UST Certification - Subsurface Evaluation and Closure
DISCO Security Clearance - Secret

PROFESSIONAL ASSOCIATIONS
American Society of Civil Engineers
National Society of Professional Engineers
NCEES Member No. [redacted]

YEARS OF EXPERIENCE: 27

EMPLOYMENT HISOTRY:
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - 1993 – Present
Oxford Engineering (no longer in business) - 1990 – 1993
Holzmacher, McClendon and Murrell - 1988 – 1990
Robert Silman Associates - 1986 - 1988
Lev Zetlin Associates (Office of Thornton Tomasetti) - 1984 - 1986

PROFESSIONAL EXPERIENC
Mr. McCarthy is Vice President and in charge of Facilities Engineering including remedial design services with over 27 years of facilities, structural and security engineering experience. He has performed and managed numerous facility evaluations, upgrades and designs involving buildings, utilities and site restoration and has conducted environmental investigations and remediation system designs for private industries as part of plant operations and maintenance. Relevant project experience includes the following:

- **Port Authority of NY & NJ, Professional Design and Technical Services for Security Capital Programs on a "Call-In" Basis.** *Director* in responsible charge for providing various confidential security related design services for various tunnel, bridge, airport, rail (PATH) and port facilities projects in NY and NJ. Under this contract, presently preparing Stage I reports and design documents for construction and installation of crash barriers, perimeter intruder detection systems, structural hardening of access points, Infographics systems, ventilations systems safeguards and landside improvements.
- **Port Authority of New York & New Jersey, On-Call Civil Engineering Services.** *Program Director* responsible for QA/QC of civil engineering services involving roadway, drainage and pavement design at JFK, Newark and LaGuardia Airports. In responsible charge of engineers and in the performance of engineering assessments and development of design plans,

specifications and cost estimates. Representative projects included JFK Airport Service Road and Taxiway Rehabilitation, LaGuardia Airport Service Road Restoration, Oil/Water Separator Installations at Buildings 14, 75 and 79 at Newark International Airport, JFK Cargo Road Rehabilitation and Guard Post Crash Barriers at JFK.

- **Port Authority of NY & NJ, Perimeter Intrusion Detection Systems, Design/Build Project.** *Principal – In-Charge and Director* responsible for providing lead design engineering services for civil/utilities and environmental/permitting aspects as well mechanical and electrical engineering support services within the command and control rooms for this confidential security PIDS design/build project for all major New York and New Jersey airports.
- **Port Authority of New York & New Jersey, Facility Condition Surveys, Waterfront Facilities Surveys Program.** *Program Director* responsible for structural and mechanical evaluations of wharfs, piers and related marine building structures. In responsible charge of engineers and building and underwater inspection teams in the performance of physical surveys, detailed reporting and remedial analysis and reinforcement/upgrading of deficiency elements and supporting systems. Responsible for fast tracked survey of Red Hook Wharf in Brooklyn, New York and Howland Hook Wharf in Staten Island, New York involving underwater pile and bulkhead evaluations, underdeck and above deck inspections and lighting towers.
- **Port Authority of New York & New Jersey, Crash Barriers at Guard Posts A-1 & A-2, H, J, O, P, R, S, V, W, Z and Gate 106 – JFK International Airport.** *QA Manager* responsible for oversight of contract documents development for the installation of Vehicular Crash Barriers at 11 of the 17 Guard Post locations at John F. Kennedy International Airport. The Guard Posts provide secured access to airside areas of the airport. Work involved civil, structural, mechanical, electrical and traffic engineering and design as well as CM services.
- **Port Authority of New York & New Jersey, JFK and LGA Building Conditions Assessment.** *Director* in responsible charge of this facilities engineering project which involved the survey and evaluation of numerous cargo hangars, buildings and terminals at JFK International Airport and LaGuardia Airport to inventory architectural/civil/structural and environmental items and ascertain equipment and general compliance deficiencies. Evaluated deficiencies with recommendations for repair or replacement, assessed remaining useful life and provided cost estimates for the repair and replacement of deficient items and equipment. Comprehensive facilities engineering reports were prepared for each facility documenting the findings. The hangar and building facilities evaluated at JFK included Buildings 72 (Citibank), 111 (FAA Building), 261 (Lufthansa Cargo) and 263 (Asiana Cargo), the Hangar 12 Complex with ancillary Buildings 94, 95 and 96, Buildings 6, 66 (British Airways Cargo), 67 (Delta Air Cargo), 215 (Greenwich Air Services), 262 (Federal Express) and Terminal 6 (TWA's domestic passenger terminal). At LGA, evaluated Hangar 4 and Building 17.
- **Metro North Railroad – Installation of Access Control Points at Yards Facilities.** *Principal* responsible for project oversight of this on-going design effort at the Brewster and North White Plains Facilities involving civil engineering associated with roadway access re-configuration and electrical/electronics design associated with the security gates.

Louis Berger & Assoc PC

ALBERT RACCIATTI, P.P., AICP
Economics

EDUCATION

M.C.R.P., City and Regional Planning, Rutgers University, 1999
M.A., International Relations (Concentration in Political Economy), University of Chicago, 1991
B.S., Industrial and Labor Relations, Cornell University, 1989

PROFESSIONAL REGISTRATIONS/ AFFILIATIONS

Licensed Professional Planner (P.P.), New Jersey (License No.: [redacted]
American Institute of Certified Planners (AICP)
New Jersey and New York Metro Chapters, American Planning Association

HISTORY OF EMPLOYMENT

Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc.- Director; 2009 to Present
Ambac Financial Group, Inc., New York, NY; Vice President, Project Finance- 2007-2009
The Louis Berger Group, Inc., New York, NY; Planner - Principal Planner- 1999 to 2007
New York City Department of City Planning, New York, NY; Intern - 1998 to 1999
Practising Law Institute, New York, NY; Managing Editor - 1991 to 1997

YEARS EXPERIENCE: 11

PROFESSIONAL EXPERIENCE

Mr. Racciatti is Director of Financial and Regional Analysis in the transportation and regional planning practice, specializing in regional economics, transportation planning, transportation finance, and market research. Since joining the firm in 1999, he has managed projects and lead tasks in traffic and revenue forecasting, demographic forecasting, risk assessment, indirect and cumulative impact analysis, economic impact assessment and survey research. Relevant project experience includes the following:

- **Port Authority of New York & New Jersey, World Trade Center Program Financial and Schedule Risk Analysis, New York, NY.** *Deputy Project Manager.* Served on Risk Management Team for the reconstruction of permanent commuter railway station, common infrastructure, memorial, and commercial towers under construction at the World Trade Center site in Lower Manhattan. Prepared project risk register and monthly tracking tools through interviews and coordination meetings with project managers, schedulers, cost estimators, and stakeholders. Assembled cost simulation model (using @Risk spreadsheet software) to evaluate uncertainty in the budget for activities in design, procurement and construction. Participated in development of risk schedules (using PertMaster schedule tool for Primavera 6) and identified linkages between project schedule and cost. Coordinated with FTA on elements of Project Execution Plan (PEP) including Risk Management and Contingency Management Plans.
- **Port Authority of New York & New Jersey, Regional Cost-Benefit Framework Development, New York, NY.** *Analyst.* Compiled literature review and recommended performance measures/input assumptions for use in agency's standardized cost benefit framework. Measures evaluated included: value of time and value of reliability for roadway, transit, and goods movement projects. Reviewed research and measures assembled for value of statistical life, operations of passenger/cargo aircraft, and airport parking.

- **Port Authority of New York & New Jersey, Goethals Bridge Replacement Project EIS – Employment Forecast and Alternatives Screening.** *Task Leader.* Developed refinements to the regional employment forecast for Staten Island to reflect recent economic and development trends. Compiled and evaluated available employment forecast information and worked with stakeholders (Port Authority of New York and New Jersey, NYC Economic Development Corporation, Department of City Planning) to identify recent trends and future economic development initiatives. Developed screening criteria and toll pricing/congestion pricing scenarios and traffic demand management TDM components of Action Alternatives to be screened for further analysis.
- **Port Authority of New York & New Jersey, PATH-EWR Connection Stage I Design Cost-Benefit Considerations, Newark, NJ.** *Task Manager.* Prepared evaluation of the cost/benefit considerations of various alternatives for the extension of PATH commuter rail service to Newark Liberty International Airport. Estimated the regional economic impacts of construction and operation alternatives using input-output modeling techniques.
- **Port Authority of New York & New Jersey, PATH Reconstruction Alternatives Risk Analysis, New York, NY.** *Task Manager.* Developed project cost and financial model to evaluate risks in the estimates compiled for two alternative site proposals for reconstruction of the Port Authority Trans Hudson (PATH) permanent commuter railway station at the World Trade Center site in Lower Manhattan.
- **Port Authority of New York & New Jersey, Newark Airport AirTrain Ridership Forecast, Newark, NJ.** *Project Manager.* Developed forecast model of hourly ridership by station link for airport monorail system to evaluate need for system capacity improvements.
- **Port Authority of New York & New Jersey, Commercial Vehicle Study, New York, NY.** *Project Manager.* Conducted study of recent patterns in commercial vehicle traffic at the interstate bridge and tunnel crossings to assess PANYNJ market share vis-à-vis other regional crossings and develop recommendations for strategies to promote efficient use of facilities, and effective revenue forecasting.
- **Port Authority of New York & New Jersey, Interstate Crossings Toll Revenue Forecasting Program, New York, NY.** *Project Director.* Managed and participated in ongoing project (initiated in 2001) to provide monthly, quarterly, and annual forecasts of traffic and revenue at the six Port Authority of New York and New Jersey interstate bridge and tunnel crossings with annual revenues of over $700 million.
- **USACE Institute for Water Resources, *Economic* Impact of Civil Works Projects.** *Task Leader.* Designed and developed a database model to assess the economic impacts of US Army Corps of Engineers (USACE) American Recovery and Reinvestment Act (ARRA) spending on Civil Works programs. Conducted workshops on impact estimation needs, developed model *documentation and training sessions for end* users..
- **Metropolitan Washington Airports Authority, Metropolitan Washington Airports Authority Economic Impact Study.** *Project Manager.* Using input-output modeling techniques to estimate regional economic impacts of MWAA facilities, capital investment programs and operations, including Reagan National and Dulles International Airports, the Dulles Toll road and first phase construction of the Metro Link rail transit system. Visitor spending impacts and airport-related impacts of firms utilizing the airport for air freight shipments are considered.

Louis Berger & Assoc PC

NICHOLAS C. VERAART, AICP, ASLA
Planning

EDUCATION
M.Sc., Regional Planning and Land Planning, Wageningen University, Netherlands
B.Sc., Land Planning and Landscape Architecture, Wageningen University, Netherlands

PROFESSIONAL REGISTRATIONS AND AFFILIATIONS
A.I.C.P. American Institute of Certified Planners
I.A.I.A. International Association for Impact Assessment
A.S.L.A American Society of Landscape Architects

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - October 1995 – Present

YEARS EXPERIENCE: 24

PROFESSIONAL EXPERIENCE
Mr. Veraart has extensive experience with urban planning and transportation project planning and development and has applied his expertise to a broad range of transportation and development projects, including the Fulton Street Transit Center in Lower Manhattan. Mr. Veraart has also been the lead person on large-scale mixed use development projects including the World Trade Center Memorial and Redevelopment Plan, the Meadowlands Mills project in the NJ Meadowlands and the Waterside development near the United Nations on the East River in Manhattan. He has planning experience in both NJ and NY, including conceptual plans for facilities such as the Harrison NY MTA Train Station TOD, combining parking with residential and retail development and large scale rezonings and redevelopment projects such as Broadway Triangle in Brooklyn and downtown revitalization such as the Elizabeth NJ Waterfront Redevelopment Plan. Mr. Veraart is also experience with environmental analyses for infrastructure projects such as bridges, tunnels and intermodal facilities. Mr. Veraart's regulatory background in SEQRA/CEQR and NEPA environmental impact analysis (including FTA compliant analyses) and permitting further broadens his basis for urban planning and development, especially as it relates to transportation. He is currently part of a team developing solutions for the Nassau Hub project; a proposed new BRT/LRT transit service in suburban Long Island. Relevant project experience includes:

- **Port Authority of New York & New Jersey, Integrated Sustainable Design & Strategies for the Terminal A Expansion and Modernization Program, Newark Liberty International Airport, Newark, NJ.** *Environmental Compliance Advisor*. Development of an integrated framework for sustainability guidelines/LEED requirements and Federal and State Environmental Review Compliance Requirements. Specific focus areas included wetland and stormwater impacts, integration of wetland mitigation concepts with sustainable site development and building design concepts, including stormwater capture and wetland pre-treatment concepts and permitting strategies.
- **World Trade Center Memorial and Redevelopment Plan, New York, NY.** *Project Director*. Mr. Veraart led services to LMDC for the preparation of the GEIS for the World Trade Center Memorial and Redevelopment Plan.

- **MTA / NYCT Fulton Street Transit Center Environmental Impact Statement, NY.** *Project Director*. Directed the preparation of the FEIS and Section 4(f) for $750 million federally funded Fulton Street Transit Center (FSTC) in Lower Manhattan. Mr. Veraart presented the analysis of cumulative construction in Lower Manhattan to a National Panel of government agencies under auspices of the Federal Transit Administration. Other key aspects included interagency coordination related to traffic and circulation and impacts of businesses and residents.
- **WTC Memorial Pedestrian Modeling**. Mr. Veraart led services to the Memorial Foundation for the computer simulation of pedestrian movements of thousands of visitors expected at the Memorial site.
- **Access to the Region's Core (ARC) FEIS Section 4(f) Evaluation, NJ.** Mr. Veraart co-authored the Section 4(f) Evaluation for the project.
- **NYS Public Service Commission, Waterside Development, New York, NY.** *Project Manager*. Mr. Veraart led the preparation of the EIS for a large-scale, nine-acre, multi-block 5 million square feet of mixed use development between East 35th Street and East 41st Street in Manhattan, on behalf of the NYS Public Service Commission.
- **MTA New York City Transit, Lower Manhattan Jamaica/JFK Airport Transportation Project Environmental Impact Statement (EIS), New York, NY.** *Task Manager*. Alternatives analyses included construction of a new rail tunnel under the East River to provide a direct connection between Jamaica Queens and Lower Manhattan. The EIS is sponsored by the Metropolitan Transportation Authority, New York City Transit, Long Island Rail Road, Port Authority of New York and New Jersey, and the Lower Manhattan Development Corporation and supported by the New York City Economic Development Corporation.
- **MTA Long Island Rail Road Intermodal Center. Mineola, NY.** *Project Manager*. Mr. Veraart led a multidisciplinary team for the planning, preliminary design, environmental review and transportation analyses for a 1,000 car intermodal bus and parking facility adjacent to the MTA/Long Island Railroad Mineola train station. Mr. Veraart was involved from preliminary design through construction services and supported LIRR with public involvement and interagency coordination.
- **Ridgewood Station Environmental Assessment. Ridgewood. NJ.** *Project Manager*. Mr. Veraart prepared the Environmental Assessment and coordinated with the FTA for the environmental review and historic resource (Section 106) review process under contract to Urbahn Associates for NJ TRANSIT.
- **Final Environmental Impact Statement (FEIS - SEQRA, NEPA) Gull Hazard Reduction Program, JFK International Airport, Jamaica, NY.** Project Manager. Managed the preparation of the SEQRA/NEPA EIS for the implementation of the Gull Hazard Reduction Program at JFK International Airport in New York City. *Client: U.S. Department of Agriculture*
- **MTA Metro-North Railroad, Harrison Station TOD Concept Plan, Harrison, NY.** *Landscape Architect*. Prepared development scenarios, conceptual architectural design, and zoning guidelines for Metro North's 150,000-ft2 train station property in downtown Harrison. The proposed development included retail and professional offices, residences for the elderly, parking facilities, as well as landscape plans for an existing park and improvement of pedestrian circulation and platform access.

Louis Berger & Assoc PC

JAMES G. BACH, P.P., AICP
Planning

EDUCATION
M.C.R.P., City and Regional Planning, Rutgers University, 1975
B.A., Journalism and Urban Sociology, Fordham University, 1973

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Licensed Professional Planner, New Jersey [redacted]
Member, American Institute of Certified Planners

PROFESSIONAL AFFILIATIONS
American Planning Association
Transportation Research Board

HISTORY OF EMPLOYMENT
Louis Berger & Assoc., P.C., in association with The Louis Berger Group, Inc. - July 1983 – Present

YEARS EXPERIENCE: 37

PROFESSIONAL EXPERIENCE
Mr. Bach has 37 years of experience, starting his career as a Senior Planner. During his career, Mr. Bach has managed and directed large, complex projects throughout the United States. He also served as the Principal-in-Charge for the Port Authority of New York and New Jersey's reconstruction of the World Trade Center site. In 1993, Mr. Bach led a team of economists, planners and financial specialists analyzing the potential financial and economic impacts to the Port Authority and the region of the World Trade Center bombing and the subsequent damage and temporary closure of the facilities.

He is a recognized leader in project delivery systems, project evaluation techniques and the planning and environmental approval process for major infrastructure projects, such as the light rail system serving John F. Kennedy International Airport, (JFK AirTrain) the U.S. Department of Defense's Strategic Defense Initiative Organization (Star Wars) and deployment of the MX (Peace Keeper) Missile System at Francis E. Warren Air Force Base in Wyoming and numerous facility and transportation infrastructure projects encompassing highways, transit, airports and ports. Relevant projects include:

- **Port Authority of NY & NJ, Downtown Restoration Program, New York, New York**. *Principal-in-Charge* on the FTA funded $3.2B World Trade Center (WTC) PATH Terminal Project, the $478M WTC Security Center and Tour Bus Facility Project, and WTC Site Planning and Development. Responsibilities include coordination with over $16B in Lower Manhattan projects, including the World trade center PATH station, Freedom Tower, the WTC Memorial, the Vehicle Security Center and associated World trade Center related development. Mr. Bach also served as the *Principal-in-Charge* to the initial $544M Downtown Restoration Program consisting of three projects: the expansion of the Exchange Place Station (tunneling, new switches and extended platforms); the restoration of the tunnels under the Hudson River connecting Exchange Place

with New York; and the construction of a new temporary terminal at the site of the former World Trade Center. Responsible for executive over-site of compliance, capital reporting, cost controls, project budget oversight, scheduling, public relations and coordination among the various stake holders.

- **Port Authority of NY & NJ, Program Management, Newark International Airport Redevelopment Program.** *Principal-in-Charge* for the program management for the Port Authority of New York and New Jersey's $1.5 billion airport redevelopment program. Activities include the full complement of project controls, budgetary and financial analysis and scheduling functions in addition to technical support in the areas of environmental documentation and permitting, aviation planning and engineering design and review. The program also includes outreach activities targeted to the public and aviation community and includes WEB page, signage, banners, press releases, 3-D models and public service announcements.

- **U.S. Department of Defense, Strategic Defense Initiative Organization (SDIO), Washington, D.C.** *Deputy Program Manager* for National Environmental Policy Act (NEPA) Compliance for the SDIO (Star Wars) Program. Included among the responsibilities was the preparation of environmental documentation and other studies for public review of highly complex and technical materials on this often controversial program.

- **Federal Aviation Administration/New York State Department of Transportation, Environmental Impact Statement, Airport Access Automated Guideway Transit System (AirTrain).** *Project Manager*. Federal Aviation Administration/NEPA- and New York State Department of Transportation/SEQRA-required Environmental Impact Statement for the Port Authority of New York and New Jersey's proposed $2.4 billion Airport Access Automated Guideway Transit System between JFK and Jamaica Station. This project, currently in its final phase, includes extensive interagency coordination, multiple and complex regulatory jurisdictions and criteria, and a significant public information/outreach program. Key environmental issues associated with the 20 + mile-long alignment include wetlands/open waters impacts, cultural resources, air quality, visual intrusion, hazardous properties, and traffic and construction impacts. An in-depth alternatives analysis was also a major component of the work.

- **New York State Department of Transportation, Stewart Airport Properties Development Plan and Environmental Studies.** *Project Manager*, supervising preparation of site development alternatives for approximately 2,000 acres of the 8,000-acre airport properties and the environmental studies necessary to secure associated development permits. Scope includes re-evaluation and refinement of marketing studies, formulation of a site master plan, formulation of development alternatives, implementation of a public participation program, preparation of a Federal/SEQRA EIS and preparation of permit applications.

- **Federal Highway Administration (FHWA) Environmental Research Support Open-Ended Contracts.** Responsible for managing a two consecutive open-ended environmental research contracts performed at a national level, one covering three years and the second covering at least five years. A total of 40 individual task orders have been prepared under these two contracts to date including: developing Environmental Justice training materials for FHWA, including case studies demonstrating the application of Environmental Justice techniques and principles; the preparation of case studies highlighting the use of public-private partnerships for CMAQ projects; the preparation of public involvement guidance materials, including the preparation of case studies demonstrating public involvement techniques and principles for design-build projects.

STELLAR

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Tel# 212 432 2848
Fax# 212 432 2846

YUMIN DING

Cost Control Specialist

Ms. Yumin Ding possesses excellent analytical skills in the finance area. She is dedicated, organized and has great experiences working with vendors/clients at different levels including State and Local government agencies. Ms. Ding performs budget planning and resource management, and supports contract administration and cost control to MTA Second Avenue Subway Project. She supervised the monthly requisition process, oversees data collecting & input into JD Edwards system and accounts payable, updates and maintains project database, and provides cost analysis.

EDUCATION

Master, Management,
Graduate School of Business of Grenoble, France — Sept 2001 – May 2003
B.A., French Language and International Economics,
Beijing University, China — Sept 1997 – July 2001

PROFESSIONAL WORKING EXPERIENCE

Stellar Services New York, NY — July 2004 - Present
Cost Control Specialist

2nd Avenue Subway Project - *Financial Analyst/Project Analyst*

- Manage the implementation of project control on finance/accounting team
- Coordinate cost estimates, preliminary and final contract documentation
- Update and review monthly actual and forecasted project costs
- Prepare monthly status reports addressing accomplishments, issues, schedule and budget status
- Manage and analyze labor reports to budget costs
- Responsible for the monthly requisition process
- Provide support to contract administration and cost control
- Oversee collection and input of data into JD Edwards system and accounts payable
- Update and maintain project database providing detailed tracking of man-hours and costs, including data feeds to the project cost management system
- Provide support covering a wide range of cost analysis and tracking to satisfy project reporting requirement, including ad-hoc requests

Steller Corporate Office - *Business Analyst*

- In charge of hardware/software sales to New York State & New York City government and Higher Education accounts. Responsible for the whole circle of hardware/software bids, invoicing and account receivable follow-up.
- Worked closely with State and Local government agencies' procurement department, responded to solicitations released by those agencies.
- Coordinated with inside sales representatives of Dell, Gateway, Cisco, Veritas, BMC
- Responsible for monitoring the business opportunities from INPUT for any Federal and state procurement requirement
- Designed the work flow charts of document control process for City of Atlanta Clean Water project

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- Analyzed the work process of program development for Forest City Ratner Company
- Participated in data analysis project for Pfizer
- Special coordination for government requisition project
- Established monthly P&L report of sales staff and major projects of the company
- Oversaw monthly invoicing/bill payment of the company

China Marketing Research Inc. Shanghai, China March 2004 – June 2004
Research Executive

- Participated in several marketing research projects for automobile companies' marketing strategy
- Designed questionnaires and conducted interviews with customers and suppliers for clients.
- Conducted qualitative and quantitative research.

Keria Luminaries SA Grenoble, France June 2003 – Dec 2003
Assistant Manager of Marketing Intern

- Business development in market of China.
- In charge of the outsourcing in Asia, successfully reduced the sourcing cycle by 10 months.
- Analyzed the company's old web site; designed and made a new web site for the company (www.keria.fr).

APPLICATIONS
Microsoft Office Suite (Access, Excel, Word, PowerPoint)
Web Design: Macromedia Dreamweaver, Fireworks and Flash; Adobe Photoshop

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Fax# 212 432 2846

HAO JIANG

Cost Control Specialist

Mr. Hao Jiang specializes in financial and cost accounting, operational auditing and project management. He has strong analytical research and investigative skills, and has in depth knowledge in GAAP, FASB and SOX. He is extremely well organized and detail oriented, with strong time management and prioritizing skills, and confident in decision making while exercising discretion, reliability and prudent judgment, and highly merited on maintaining high unit standards and complying with guidelines, policies and procedures.

EDUCATION

McGill University, Montreal, QC, Canada 2006-2007
Diploma in Accounting/Graduate Certificate in Treasure and Finance

McGill University, Montreal, QC, Canada 2004-2005
Master of Library and Information Study

Memorial University of Newfoundland, St. John's, NL, Canada 2003-2004
Master of Business Administration

Memorial University of Newfoundland, St. John's, NL, Canada 2001-2002
Master of Arts in Economics

Nankai University, Tianjin P.R. China 1991-1995
Bachelor of Arts in Economics/Bachelor of Arts in Literature

TECHNICAL SKILLS

- QuickBooks, Simply Accounting, Payroll and Tax Software
- Primaver6
- MS Office (Word, Excel, Outlook, Visio and PowerPoint)

PROFESSIONAL DESIGNATIONS

- Certified Public Accountant (CPA)
- Certified Management Accountant (CMA)
- Certified Internal Auditor (CIA)
- Certified Information System Auditor (CISA) Candidate
- Certified Cost Consultant/Certified Cost Engineer (CCC/CCE) Candidate
- Microsoft MCP/MCSE/MCSD/MCDBA (Expired)

PROFESSIONAL WORKING EXPERIENCE

Stellar Services New York, NY 2008 - present
Cost Control Specialist

- Manage projects cost by reviewing project-related cost details and purchase orders, liaising between accounting department and project management team, ensuring all costs are accurately charged and appropriated.
- Reclassify and reallocate mischarged items, update revenue schedule for the projects which includes reconciliation of cost with the journal, ledger, work in progress, cost in excess, invoice and contract billing.

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- Collect and compilate timesheets and work orders from management, field services and third party contractors.
- Coordinate with project managers and principals for invoice approval and work authorization.
- Input all consultant invoices and reconcile invoice discrepancies with the consultants, review labor cost and expenses with the project managers, analyze/compare cost against budget allocation for multiple projects, evaluate accrual levels and earned value calculation report, variances to project managers, and forecast cost plan.
- Perform General Ledger review and maintenance including coding, adjusting, closing and balancing accounts, and provide analysis and reconciliation of all ledger accounts.
- Manage the entire monthly, quarterly, and yearly close process to ensure GAAP compliance.
- Compile and analyze financial information to prepare accurate and timely monthly, quarterly and yearly financial statements in compliance with GAAP, such as footnotes and related financial disclosures.
- Maintain and prepare supporting schedules for various balance sheet and income statements accounts, including amortizations schedule, AR and AP aging schedule, inventory and fixed assets schedules, pre-paid expenses, accrued liabilities, interest, defer Revenue account, realized and unrealized gain/loss of investment accounts, and others.
- Review and analyze financial reports to ensure appropriate selection, application and consistency of accounting principles, such as capitalization policy, estimate of AFDA and timely accruals throughout the year, and work closely with the operational departments to ensure that all financial transactions are captured and properly recorded in the appropriate period.
- Produce statistics data and various ad hoc financial reports, such as profit centers P&L report and fixed asset report, to support management decision-making.
- Manage AP/AR to ensure timely AR collection and payment to vendors.
- Manage payroll function for company employees and 1099 contractors and issue required 1099s and W-2s at year end.
- Prepare annual revenue forecast and budgeting, and perform monthly variance analysis.
- Establish and monitor the implementation and maintenance of accounting control procedures to ensure SOX compliance.
- Perform company annual federal and states tax return analysis and provide supporting documents to accounting firm for tax return filing
- Interact with external auditors during quarterly reviews and year-end audits including financial audit preparation and coordination of audit process

Jianmin & Association C.G.A., Toronto, ON, Canada 2007 - 2008
Staff Accountant

- Handled full cycle accounting transaction, including Journal Entries Preparation, Bank Reconciliations, A/P, A/R, General Ledger posting, Trial Balance analysis, Financial Statement generation and Year-end closing and tax remittances.
- Managed payroll function.
- Prepared personal and Corporation Income Tax Returns.
- Managed clients relationship and information.
- Ensured compliance with the necessary statutory regulation and practices.

ELIZABETH BOVINO
COST/SYSTEMS ANALYST

Ms. Elizabeth Bovino is currently the Cost/Systems Analyst for the Downtown Restoration Program (WTC Construction). Previously, she performed this function for Phase II of the EWR Redevelopment Program, and the AirTrain Newark Program. Responsibilities included design and development of database systems for all aspects of these Programs, with special emphasis in the cost control, budgeting and document control areas. Other responsibilities included public relations, report writing and software training.

Education:
M.B.A./MIS
St. Peter's College
Jersey City, NJ

B.S. MIS
Dominican College
Orangeburg, NY
Magna Cum Laude

Licenses/Certification
DBE
WBE

Professional Affiliations:
Professional Women of Construction USA

Employment History:
Team Support Services, Inc.,
President, 1998 – Present

Relevant Experience

Downtown Restoration Program. *PANYNJ.* Track expenditures for all WTC Site projects including the $3.2 billion WTC Transportation Hub Program and the $633 million WTC Vehicular Security Center Program. Maintain work breakdown structure and create corresponding charge codes for these projects using InCAPs. Prepare monthly and quarterly reports, including FTA Activity Line Item and Encumbrance reports. Track actual versus budgeted costs using SAP as a source. Prepare consultant and construction drawdown documentation for FTA funded projects. Review and process invoices and prepare Journal Vouchers as necessary in SAP. Prepare monthly accrual report. In addition, establish internal orders and track operating expenses for the WTC Site Work projects. (Ongoing)

Newark Liberty International Airport Redevelopment Program – Phase II. *PANYNJ.* Prepared weekly, monthly and quarterly reports. Opened and closed charge codes based on Program Work Breakdown structure. Prepared monthly accrual report. Processed Terminal A Improvement/Relifing payments in SAP. Audited invoices submitted by Continental for the Terminal C Roadways and Lot C Garage projects. Tracked actual costs versus budget information. Designed and developed Program database, which included the following components: Document Control, Invoice Tracking (Program Management and Continental), Authorizations, Cost Control, Daily Casip Log and Follow-up/Action Item Lists. Downloaded actuals on a monthly basis from Captrak (InCAPS), and uploaded information into the Program database for budget tracking and incorporation into the Program monthly report. Used Contrak reports to capture earned value information for each project. Developed and maintained a Program press kit including updated narrative fact sheets and current construction photography for each project. Coordinated site tours and presentations for external groups, as well as participated in community outreach events. Prepared articles for submission into various publications. Reviewed all presentation materials including slides, videos, press releases and posters that were used for informing the public on the status of the Program. (2001-2002)

Newark Liberty International Airport Redevelopment Program. *PANYNJ.* Prepared yearly budgets for the $415 million EWR AirTrain Program. Prepared budget updates to the Capital Plan and modified data in the Captrak (InCAPs) System. Prepared weekly, monthly, quarterly and ad-hoc reports. Prepared biweekly status meeting minutes. Opened and closed charge codes, which were developed based on a Program Work Breakdown structure. Downloaded actual costs from SAP on a monthly basis and audited expenditures. Designed a Program database that included the following components:

Document Control, Cost Control, and System Vendor Letter Tracking. Using the Cost Control component of the database, tracked budget versus actual performance for incorporation into various reports. (1997-2001)

Newark Liberty International Airport Redevelopment Program – Phase I. Prepared status reports, ranging from weekly to yearly, for all active projects on the Program. Developed initial drafts of reports for review by the Project Managers. Prepared final narrative sections, updated schedules and collected cost data. Integrated all information to produce final reports; distributed reports in both electronic and hard copy formats. Designed and conducted training classes for electronic mail, calendar, spreadsheet, graphics and word processing software programs. Provided "help desk" software troubleshooting support for approximately sixty end users. In addition, provided administration backup support on a Novell 4.1 network. Designed and developed Program database including the components listed below. (1988-1997)

Employee Administration System -- This system tracked computer hardware and software inventory, petty cash disbursements, company vehicle usage and personnel information.

Document Control Tracking System --The document control module was comprised of a resource library, circulation control monitoring and document location indexing.

Invoice/Budgeting System -- This application provided for the creation of invoices to the client and produced budget reports.

Lease Management System Designed and developed a lease tracking system which monitors airport tenant lease activity including expiration look-ahead reports. This system also has the capability to produce a tenant directory and yield mailing labels. This system is currently being used at EWR, JFK and LGA airports. A similar system was installed at Atlanta Hartsfield International Airport.

MARGARITA MORERA
REPORTS / PRESENTATION SPECIALIST

Ms. Margarita Morera possesses over eight years of experience in the preparation, editing and distribution of program reports, which ranged from weekly reports to executive status reports. She is well versed in SAP, Visio and PowerPoint and has assisted in the preparation of numerous presentations. As a Marketing and Administrative Manager of Team Support Services, Margarita is also responsible for recruiting, representing the company at conventions, meetings and public forms for business development purposes. In addition, she developed the company brochure, policy manual and other marketing materials. Moreover, Ms. Morera has more than 25 years of experience in the administrative and clerical fields, and has worked in the private, financial and government sectors.

Education:
Computer Software Applications, Union County Community College

Licenses/Certifications:
MS Office Certified 2000
Notary Public, New Jersey

Professional Affiliations:

Employment History:
Team Support Services Inc., Manager – Marketing, Reporting & Administration, 2000 – Present

Hudson Environmental Services, Inc., Office Manager, 1991 – 1999

Merrill Lynch Capital Markets, Senior Secretary to Vice President, 1987 – 1989

U.S. Environmental Protection Agency, Secretary to Deputy Director, 1984 – 1987

Relevant Experience

Newark Liberty International Airport – Modernization & Expansion of Terminal A. *PANYNJ.* Executive Administrative Assistant responsible for attending bi-weekly project meetings to record minutes, transcribe and prepare final version. Assisted in the preparation of project reports and presentations. Provided general administrative support including mail distribution, typing, copying, faxing and scanning to project executives and managers. Ordered supplies using the Port Authority corporate system. (2009)

Downtown Restoration Program. *PANYNJ.* Worked on the following projects: Temporary WTC Path Station, Exchange Place, WTC Transportation Hub, WTC Vehicular Security Center / Tour Bus Parking Facility, WTC Freedom Tower, and the WTC Memorial / Memorial Museum / Visitor's Orientation and Education Center. As the Reports Specialist, I prepared, edited, and distributed the weekly Program, monthly Executive status and accrual reports. Compiled data from various sources into monthly and quarterly Program status reports. Supported the Program Director and other senior staff in the set up and implementation of public outreach PowerPoint presentations. Prepared memos and spreadsheets and scanned documents. Entered invoices into SAP for payment. Queried/printed reports from SAP regarding status of purchase orders, payments and actual costs. Ordered supplies using Port Authority corporate system and set up telephone service / equipment requests. (2006)

Newark Liberty International Airport Redevelopment Program, Phase I. *PANYNJ.* Worked on the Northeast Corridor Connection / AirTrain Newark Program where I performed the following: Collected data from various departments for use in the preparation of the weekly status report. Responsible for proofreading the report for accuracy and final distribution. Gathered Application for Payment data from contractors, including Minority and Women Business Enterprises (M/WBE) information for incorporation into the monthly report. Utilized SAP to verify data for use in the preparation of monthly accrual reports and consultant invoices. Processed System Vendor Technical Consultant invoices. Maintained supervisor calendar and scheduled meetings accordingly. Prepared memos, general correspondence and expense vouchers. Responsible for the manipulation of actual cost data in Excel, which was downloaded from Captrak, for future uploading into the Program database. Incorporated narrative data from project managers into the monthly report. Proofread monthly report for accuracy and final distribution. Prepared and verified monthly payment memos for Terminal A Improvements invoices and Continental Lot C Garage and Terminal C Roadway invoices.

Hudson Environmental Services, Inc. Responsible for automated accounts payable, accounts receivable, billing and petty cash. Maintained record of all incoming cash and check payments and bank reconciliation. Responsible for procuring office supplies and equipment. Supervised secretary, provided computer support and handled customer inquiries. Arranged travel and prepared expense vouchers. Prepared memos and general correspondence.

Merrill Lynch Capital Markets. Responsible for special procurement requests. Screened incoming calls, arranged travel and prepared expense vouchers. Maintained appointment book and scheduled meetings accordingly.

U.S. Environmental Protection Agency. Supervised and trained new clerical employees. Arranged travel and prepared expense vouchers. Maintained personnel records, employee timesheets, personnel position control, and personnel action logging systems. Assisted with budget preparation.

Licenses

THE UNIVERSITY OF THE STATE OF NEW YORK
EDUCATION DEPARTMENT

THIS IS TO CERTIFY THAT HAVING MET THE REQUIREMENTS OF SECTION 7210 OF THE EDUCATION LAW AND IN ACCORDANCE THEREWITH THIS CERTIFICATE OF AUTHORIZATION IS GRANTED WHICH ENTITLES

LOUIS BERGER & ASSOC PC
4122MOUNT KEMBLE AVE
PO BOX 1946
MORRISTOWN, NJ 07960-0000

TO PROVIDE PROFESSIONAL ENGINEERING SERVICES IN THE STATE OF NEW YORK FOR THE PERIOD 01/01/2009 TO 12/31/2011.

FRANK MUNOZ
ASSOCIATE COMMISSIONER
OFFICE OF THE PROFESSIONS

CERTIFICATE NUMBER
0006121

RICHARD P. MILLS
PRESIDENT OF THE UNIVERSITY
AND COMMISSIONER OF EDUCATION

Office of the Professions

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License Information *

10/20/2010

Name : KING CHARLES FRANCIS
Address : POUND RIDGE NY
Profession : PROFESSIONAL ENGINEERING
License No [redacted]
Date of Licensure : 10/14/94
Additional Qualification :
Status : REGISTERED
Registered through last day of : 04/12

Certificate of Authorization to provide Professional Engineering Services in New York State :
YES CERT# [redacted] EXPIRES 07/13

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THE STATE OF NEW JERSEY
DEPARTMENT OF LAW & PUBLIC SAFETY
DIVISION OF CONSUMER AFFAIRS

License Information

Return to Search Results

Name: CHARLES F KING

Address: Pound Ridge,NY

Profession/License Type: Engineers & Land Surveyors,Professional Engineer

License No: [redacted]

License Status: Active

Issue Date: 7/1/1987

Expiration Date: 4/30/2012

For more information contact the New Jersey State Board of Professional Engineers and Land Surveyors (973)504-6460

Office of the Professions

Verification Searches

The informat on furnished at this web site is from the Office of Profess ons' official database and is updated daily, Monday through Friday. The Office of Profess ons considers this information to be a secure, primary source for license verif cation.

License Information *

10/20/2010

Name : STAMATIS DEMETRIOS J
Address : MORRISTOWN NJ
Profession : PROFESSIONAL ENGINEERING
License No: [redacted]
Date of Licensure : 05/24/05
Additional Qualification :
Status : REGISTERED
Registered through last day of : 01/11

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- Note: The Board of Regents does not discipline *physicians(medicine), physician assistants,* or *specialist assistants.* The status of individuals in these profess ons may be impacted by information provided by the NYS Department of Health. To search for the latest discipline act ons against individuals in these professions, please check the New York State Department of Health's Off ce of Professional Medical Conduct homepage.

THE STATE OF NEW JERSEY
DEPARTMENT OF LAW & PUBLIC SAFETY
DIVISION OF CONSUMER AFFAIRS

License Information

Return to Search Results

Name: DEMETRIOS J STAMATIS

Address: Mountainside,NJ

Profession/License Type: Engineers & Land Surveyors,Professional Engineer

License No: [redacted]

License Status: Active

Issue Date: 4/25/1991

Expiration Date: 4/30/2012

For more information contact the New Jersey State Board of Professional Engineers and Land Surveyors (973)504-6460